



3 1761 115568404

CA1
HW 320
-1988S51

GOVT



Digitized by the Internet Archive
in 2022 with funding from
University of Toronto

<https://archive.org/details/31761115568404>

Health Promotion Directorate
Health Services and Promotion Branch
Health and Welfare Canada

The Smoking Behaviour of Canadians – 1986



Suggested Citation

Health and Welfare Canada (1988). The Smoking Behaviour of Canadians - 1986 by W.J. Millar, Ottawa: Minister of Supply and Services Canada.

Published by authority of the Minister of National Health and Welfare, 1988

Également disponible en français sous le titre
"L'usage du tabac au Canada en 1986"

©Minister of Supply and Services Canada, 1988
Catalogue number H39-66/1988E
ISBN 0-662-16517-9

Acknowledgements

The author wishes to thank the Special Surveys Division, Statistics Canada, for contributions to this report. Special thanks are due to Anne Haining, Margot Shields and Nancy Brooks.

Thanks are also due to the Analytical Services Section of the Information Systems Directorate, Health and Welfare Canada. Prem Khosla and Nilima Michaud provided support in data processing and graphics. Tom Stephens read an earlier version of the manuscript and made a number of helpful suggestions.

Symbols

The following standard symbols are used in this publication:

- amount too small to be expressed, i.e. sampling variability (coefficient of variation) is greater than 25%.
- * high sampling variability (coefficient of variation between 16.5% and 25%); use with caution

Contents

INTRODUCTION	1
SCOPE OF THE REPORT	1
HIGHLIGHTS	2
DATA SOURCES	3
SMOKING STATUS	4
• Age and Sex	4
• Region	4
• Education	5
• Occupation	5
DAILY CIGARETTE CONSUMPTION	7
• Age and Sex	7
• Region	7
• Education	8
TAR/NICOTINE CONTENT	8
• Age and Sex	8
• Region	8
• Education	9
SMOKING IN THE WORKPLACE	9
• Prevalence of Smoking in the Immediate Work Area	9
• Designated Smoking Areas	10
• Attitudes toward Restriction of Smoking in the Workplace	10
ATTITUDES TOWARD RESTRICTION OF SMOKING IN PUBLIC SETTINGS	11
CHANGES IN SMOKING BEHAVIOUR, 1966-86	12
• Age and Sex	12
• Region	12
• Education	13
• Number of Cigarettes Smoked per Day	13

TAR/NICOTINE CONTENT, 1977-1986	13
DISCUSSION OF RESULTS	14
REFERENCES	15
LIST OF TEXT FIGURES	v
LIST OF TEXT TABLES	vi

APPENDICES

I. Selected Tables on Smoking	41
II. Technical Notes on Methods	55
III. Definitions of Smoking Behaviour	66
IV. Survey Questionnaire	67

LIST OF TEXT FIGURES

1. Regular Smokers among Adults Age 15 and Over, by Age and Sex, Canada, 1986	17
2. Regular Cigarette Smokers, by Region and Sex, Canada, 1986	17
3. Regular Cigarette Smokers among Adults, by Education and Sex, Canada, 1986	18
4. Smoke over 25 Cigarettes per Day, by Age and Sex, Canada, 1986	18
5. Tar Yield of Cigarette Smoked, by Sex, Adults Age 15 and over, Canada, 1986	19
6. Smoke High Tar Yield Cigarettes, by Region and Sex, Canada, 1986	19
7. Regular Cigarette Smokers among Adults Age 15 and over, by Sex, Canada, 1966-1986	20
8. Regular Cigarette Smokers among Males by Age, Canada, 1966 and 1986	20
9. Regular Cigarette Smokers among Females, by Age, Canada, 1966 and 1986	21
10. Regular Cigarette Smokers among Males, by Region, Canada, 1966 and 1986	21
11. Regular Cigarette Smokers among Females, by Region, Canada, 1966 and 1986	22

12. Regular Cigarette Smokers among Males, by Education, Canada, 1977 and 1986	22
13. Regular Cigarette Smokers among Females, by Education, Canada, 1977 and 1986	23
14. Number of Cigarettes Smoked per Day, by Regular Smokers, by Sex, Canada, 1966 and 1986	23
15. Tar Yield of Cigarette Smoked by Regular Cigarette Smokers, Canada, 1977 and 1986	24

LIST OF TEXT TABLES

1. Percentage Distribution of the Population 15 Years of Age and over, by Smoking Behaviour, Sex and Age, Canada, 1986	25
2. Percentage Regular Cigarette Smokers in the Adult Population, by Province, Sex and Age, Canada, 1986	26
3. Percentage Regular Cigarette Smokers in the Adult Population, by Education, Sex and Age, Canada, 1986	27
4. Percentage Regular Cigarette Smokers in the Adult Population, by Sex and Occupation, Canada, 1986	28
5. Percentage Distribution of Regular Smokers in the Adult Population, by Age, Sex and Number of Cigarettes Smoked per Day, Canada, 1986	28
6. Percentage Distribution of Regular Smokers in the Adult Population, by Region, Sex, and Number of Cigarettes Smoked per Day, Canada, 1986	29
7. Percentage Distribution of Regular Smokers in the Adult Population, by Education, Sex, and Number of Cigarettes Smoked per Day, Canada, 1986	30
8. Percentage Distribution of Regular Smokers in the Adult Population, by Age, Sex and Tar Yield of Current Brand Smoked, Canada, 1986	31
9. Percentage Distribution of Regular Smokers in the Adult Population, by Region, Sex and Tar Yield of Current Brand Smoked, Canada 1986	32
10. Percentage Distribution of Regular Smokers in the Adult Population, by Education, Sex and Tar Yield of Current Brand Smoked, Canada, 1986	33
11. Percentage of Working Population Reporting That Smoking Was Permitted in Their Immediate Work Area, by Occupation and Sex, Canada, 1986	34
12. Percentage of Working Population Reporting Designated Smoking and Non-smoking Areas at Their Place of Work, by Occupation and Sex, Canada, 1986	35

13. Percentage Distribution of Attitudes toward the Restriction of Smoking in the Workplace, by Occupation and Sex, Canada, 1986	36
14. Percentage Distribution of Attitudes toward the Restriction of Smoking in Various Settings, by Sex, Canada, 1986	37
15. Percentage Regular Cigarette Smokers in the Population 15 Years of Age and over, by Sex and Age, Canada, 1966-1986	38
16. Percentage Distribution of Regular Smokers by Number of Cigarettes Smoked per Day, by Sex and Age, Canada, 1966-1986	39
17. Percentage Distribution of Regular Smokers by Grouped Tar Yield of Cigarette Brand Smoked, by Sex, Canada, 1977-1986	40

The Smoking Behaviour of Canadians, 1986

By W.J. Millar, MA, MSc.
Health Promotion Directorate
Health Services and Promotion Branch
Health and Welfare Canada

Introduction

This report presents data from the 1986 Labour Force Smoking Survey. The Department of National Health and Welfare has collected smoking statistics through supplements to the Labour Force Survey (LFS) since 1964. The LFS data base on smoking represents an important source of information about a major public health risk factor. Data from the LFS are used by epidemiologists, health program planners, government and private industry.

Scope of Report

The report follows the practice of earlier smoking surveys and presents prevalence estimates of smoking by age, sex, education and region. In addition, estimates of cigarette consumption, and the tar nicotine level of cigarettes smoked, provide an indication of the complex set of factors that ultimately influence exposure to the deleterious health risks of smoking.

The 1986 estimates are compared with estimates from earlier surveys to provide some indication of the major trends in smoking behaviour in the last two decades.

The 1986 survey included some additional questions to support the efforts of health promotion program planners. One set of questions relates to the prevalence of smoking in the workplace, and the prevalence of designated smoking areas in the workplace. Another set of questions assesses attitudes toward the restriction of smoking in various public settings.

The discussion of the 1986 survey places findings in the context of recent Canadian studies on the relationship of smoking to public health and in terms of the health promotion implications of the data.

There are a great number of tabulations which could be made on the survey data. Some of them have been placed in Appendix I. These tables are generally consistent with tables in earlier reports. They will be referred to as an additional source of information in the text.

Highlights

In December 1986, 5.5 million Canadians, an estimated 28% of the population age 15 years and over were regular cigarette smokers. Approximately 3 million men and 2.5 million women or 31% and 26% smoked cigarettes regularly.

Between 1966 and 1986, the prevalence of regular cigarette smoking declined for both men and women. In 1966, 54% of males smoked compared to 31% in 1986. Corresponding rates for women were 32% and 26%. In general, rates among women have declined more slowly.

Since 1966, the province of Quebec has had the highest smoking rates in Canada. In 1986, about one third of the population (34%) were regular smokers compared to 31% in Atlantic region, 28% in Prairie region, 26% in Ontario and 22% in British Columbia.

There is some evidence that regular smokers are smoking more cigarettes per day. In 1966, 11% of male smokers smoked over 25 cigarettes per day, compared to 15% in 1986. Corresponding proportions for women were 4% and 9%.

The prevalence of regular smoking is closely associated with level of education. Adults with secondary level education or less were twice as likely to be smokers than those with a university degree. Among women, persons with some secondary education were three times more likely to be regular smokers than those with a university degree.

In 1986, 19% of regular smokers smoked cigarettes with a tar yield of 1-9 mg, 48% smoked cigarettes with a tar yield of 10-15 mg and 29% smoked cigarettes with a tar yield that exceeded 15 mg. Men were more likely than women to smoke higher tar yield cigarettes.

Between 1977 and 1986, the proportion of smokers who smoked cigarettes with a tar yield of 0-9 mg increased from 9% to 20%.

Since 1977, the proportion of Canadians who smoke handmade cigarettes tends to be older, to be male, and have less formal education. Handmade cigarettes contain higher tar levels.

Fifty-three percent of Canadian workers reported that smoking was permitted in their immediate work area. Workers in the managerial, construction and transportation occupations were most likely to be able to smoke in their immediate work area.

Forty percent of Canadian workers stated that, at their place of work, there were areas that were designated as smoking and non-smoking areas. Professional workers (55%) were most likely to indicate the existence of designated non-smoking and smoking areas.

Canadians generally favour restrictions on tobacco smoke in public settings. The consensus appears to be that smoking should only be permitted in restricted areas or not permitted at all.

Support for smoking restrictions varied according to location of the restriction. Among all respondents, support for a ban was as follows: doctors' offices (80%), inter-city buses (73%), movie theatres (69%), stores (68%), schools (72%), banks (61%), hospitals (58%), airplanes (49%), trains (41%), government offices (35%). The support for a ban was least for restaurants (27%) and the workplace (28%).

Data Sources

The Labour Force Survey is a large household survey that is conducted by Statistics Canada. It is used primarily to collect data relating to employment status. Because of the large sample size of the Labour Force Survey, it is convenient and relatively inexpensive to add on occasional survey supplements. Smoking surveys have been carried out in Canada through supplements to the Canada Labour Survey since 1964.

The 1986 Labour Force Survey on the smoking behaviour of Canadians was conducted in December. The survey collected data relating to 30 799 adults age 15 and over in 12 000 households. The survey response rate was 95%. Data are collected by a combination of personal interviews, telephone follow-up and mail-back procedures. Proxy response was accepted for 30% of the sample.

Since the inception of the LFS smoking surveys, the conceptual definition of smoking behaviour has remained consistent. The sampling design of the LFS survey has been modified on a periodic basis to increase the efficiency of the design and to incorporate population estimates.

All data presented in this report are from the public use micro-data tape. Because of the relatively large sample size, even small differences are likely to be statistically significant. Because of the number of comparisons which could be made, it was not practical to run significance tests on all comparisons. Where differences are noted and discussed in the results section, these have been assessed by t-tests with a critical value at .05. Appendix I describes the procedure for the calculation of standard errors.

All data from the LFS smoking surveys are based on cross-sectional sample designs. Consequently, the observed association between smoking behaviour and socio-demographic characteristics may be due to differences between birth cohorts, selective survival, differences in period or historical influences or a combination of these factors.

Smoking Status

Age and Sex

In December 1986, an estimated 5.5 million Canadians, or 28% of the population 15 years of age and over, were regular cigarette smokers (Fig.1). Occasional cigarette smokers comprised 3% of the population and pure pipe and/or cigar smokers 1.5%. Approximately 3.0 million men and 2.5 million women or 31% and 26%, respectively, smoked cigarettes regularly.

Table 1 presents more detailed data relating to the distribution of the population by smoking status. Below age 25, men and women are equally likely to be regular smokers. About 18% of the 15-19 age group and 32% of the 20-24 age group smoke regularly. Men in the 25-44 age group are slightly more likely to smoke regularly (35%) than women (31%). Sex differences in smoking behaviour are more apparent among those over age 45. In the 45-64 age range, 34% of men and 25% of women are regular smokers. Among adults over age 65, 19% of males and 11% of women smoke regularly.

Non-smokers comprise 67% of the population. Former smokers and those who never smoked fall within this classification. The first group represents 23% of the population and the never smoked category 44%. Because of the historical differences in smoking behaviour among men and women, the former-smoker rate is higher among men (27%) than among women (19%). Among both men and women, the prevalence of former smokers increases with age.

The never-smoked category is important because it provides a crude indicator of social pressures against the onset of smoking. About 44% of the adult population report that they have never smoked. Males are less likely to have never smoked. About 36% of men never smoked compared to 53% of women. Among men, the percentage of adults who never smoked decreases with age. This pattern also occurs among women up to age 45. After age 45, a higher percentage of women are likely to have never smoked. Sixty-eight percent of women age 65 and over have never smoked compared to 24% of the men in that age group.

Region

Regional variation in Canadian smoking behaviour is still apparent, although differences are diminishing. In December 1986, Quebec had the highest proportion of regular cigarette smokers in Canada. About one third of the population (34%) were regular cigarette smokers compared to 29% in the Atlantic Region, 28% in Prairie Region, 26% in Ontario, and 22% in British Columbia.

Table 2 and Fig. 2 provide data on the prevalence of smoking within each province and region. Among the provinces that comprise Atlantic Region, Prince Edward Island has the lowest smoking prevalence (25%), fol-

lowed by Nova Scotia and New Brunswick (31%) and Newfoundland (31%). Within the Prairie Region, smoking rates are lowest in Saskatchewan (27%) and Manitoba (27%) and highest in Alberta (29%).

Provincial comparisons of smoking behaviour among males indicate that smoking rates are higher in Quebec and the Atlantic provinces. The rates in these provinces exceed the national average of 31%. Rates in Ontario and the western provinces fall below the national average. With 37%, Quebec has the highest smoking rate for males, while British Columbia has the lowest rate (24%). Smoking rates among women are highest in Quebec (31%) and Nova Scotia (29%), and lowest in Prince Edward Island and British Columbia (20%). Within each province, smoking prevalence is higher among males. Male smoking rates exceed female smoking rates by 3.7 to 11.2 percentage points. If the sex difference in smoking is expressed by the ratio of male/female smokers, the ratio ranges between 1.13 and 1.57. The largest sex difference in smoking behaviour occurs in the provinces of Prince Edward Island and Newfoundland. In Prince Edward Island, male smoking rates exceed female smoking rates by 11.2% and in Newfoundland by 8.4%. The corresponding sex ratios were 1.57 and 1.31. Male/female smoking rates are most similar in the provinces of Saskatchewan and Nova Scotia. Male smoking rates are 3.7 to 4.0 percentage points higher than female rates. The sex ratios were 1.14 and 1.13.

Education

The prevalence of smoking is closely associated with level of education. Table 3 and Fig. 3 compare the prevalence of regular cigarette smoking between educational categories. Respondents with secondary level education or less were almost twice as likely (31%) to be smokers than those with a university degree (15%). The importance of education is particularly evident among women. Respondents with some secondary education were three times more likely to be regular smokers than women with a university degree. The strong association between education and smoking is observed in every province.

Occupation

The prevalence of smoking within occupational groups is important for both epidemiological and health promotion program reasons. Smoking may interact in combination with hazardous agents in the work environment in a synergistic manner to create more disease than the sum of the separate exposures.¹ Yields of tar, nicotine and carbon monoxide in the sidestream smoke of Canadian cigarettes are much higher than yields obtained from measurement of mainstream smoke.² Non-smoking workers may share the health risks associated with smoking through exposure to second-hand smoke.³⁻⁵ A recent Canadian review of the evidence on the composition of tobacco smoke and on the health hazards of involuntary exposure suggests that there may not be a safe level for exposure.⁶

Table 4 indicates that the highest smoking rates were found among males employed in transportation (42%), mining (40%), construction (39%), other crafts (39%) and fabricating (38%) occupations. Smoking prevalence was lowest in the professional (21%) and managerial occupations (24%) followed by the sales (26%) and outdoor occupational groups (28%). Clerical and service occupations were intermediate in terms of smoking prevalence. About 33% of clerical workers and 32% of service workers were regular smokers. For women age 15 and over, the highest smoking rates are found among employees in the other crafts, service, transportation and clerical occupations but less so that women who have never worked. Women employed in professional and outdoor occupations were least likely to smoke.

Comparison of male and female smoking rates by occupation indicate that, in general, male smoking rates are higher in most occupational groups. However, the prevalence of smoking in the managerial and service occupational groups is higher among women. For both men and women, the use of these general occupational categories may conceal much higher smoking rates among specific occupations.

The epidemiological and health promotion importance of smoking prevalence within occupational groups is influenced by a number of factors. Among these are the proportions of all workers who are located in a specific occupational group. Another consideration is the existence of other workplace hazards that may interact with tobacco smoke to create health risks.

Males are predominately located in five occupational groups: managerial (13%), professional (12%), service (11%), fabricating (11%) and construction (11%). Because a relatively small proportion of men work in transportation and clerical occupations, these occupations have little impact on total smoking rates.

Three occupational groups: clerical, service and professional account for 69% of the female work force. Among women, a large proportion of the professional category is comprised of technical support personnel. Because of the concentration of workers in these occupations, smoking prevalence within these groups has a greater impact on the overall prevalence of smoking in the total work force.

Some occupations have a higher prevalence of smoking than would be expected if smokers were distributed according to the proportion of males or females working in that occupation. Although only 6% of males were employed in a clerical occupation, 17% of male smokers were located in this clerical group. There was a similar disproportionate percentage number of smokers among males in the service occupations. About 1% of males were employed in service occupations, while 17% of smokers were located in this occupational category. Among women, a disproportionate percentage of smokers were located in the clerical and service occupations. About 30% of all women worked in a clerical occupation but 32% of women smokers worked in a clerical job. Similarly, 20% of women worked in a service occupation, but 24% of women smokers worked in a service occupation.

Daily Cigarette Consumption

Age and Sex

Mortality and morbidity risks vary according to the type of smoking behaviour and the degree of exposure to risk. Current cigarette smokers are at much higher risk for smoking-related illnesses and mortality than former or occasional smokers or those who never smoked. Risk has also been shown to be related to the number of cigarettes smoked per day, the tar/nicotine content of the cigarette, inhalation practices, and the duration of smoking. Information is provided in this report on the frequency of smoking and the tar/nicotine content of cigarettes smoked. The tables are consistent with the tabular presentation in the 1981 and 1983 LFS smoking supplements.

Data on the distribution of regular smokers by number of cigarettes smoked per day in 1986 is presented in Table 5. In 1986, 20% of regular smokers in Canada smoked one to 10 cigarettes per day, 67% smoked 11 to 25 cigarettes per day and 12% smoked over 25 cigarettes per day. The distribution of smokers over the frequency categories has remained stable since 1981. The proportion of Canadian smokers who smoke over 25 cigarettes per day is generally higher than in the United States because packs of 25 until recently were not common in the United States. Recently, some Canadian manufacturers have marketed cigarettes in packs of 30. Widespread sales of packs of 30 might shift the proportion of smokers who smoke over 25 cigarettes a day even higher.⁷

Fig. 4 indicates that in general, males are more likely to smoke over 25 cigarettes a day. About 15% of males smoke over 25 cigarettes per day compared to 9% of females. Among both men and women, the proportion of smokers who smoke over 25 cigarettes per day increases with age. Among males, the highest proportion of smokers who consume over 25 cigarettes per day occurs in the 45-64 age group. Among women, peak frequency of smoking occurs in the 25-44 age group.

Region

The proportion of regular smokers who smoke over 25 cigarettes per day is also influenced by region and education. Table 6 indicates that the proportion of smokers who smoked over 25 per day was highest in British Columbia (18%) and lowest in Ontario and the Prairie regions (10%). The tendency of British Columbia smokers to smoke more cigarettes per day may be partially attributable to the fact that they are also more likely to smoke lower tar/nicotine cigarettes. In all regions, women tended to smoke fewer cigarettes than men.

Education

Table 7 indicates that within educational groups, the heaviest smoking occurred among smokers at the extreme ends of the educational continuum. Smokers with 0-8 years of education or a university degree were more likely to smoke over 25 cigarettes per day. The pattern in the total population was primarily due to male smoking behaviour. About 18% of men with 0-8 years of education and 21% of those with a university degree were heavy smokers. Although the frequency of smoking was similar in the two groups, the type of tobacco smoked was different. About 18% of males with 0-8 years of education were smoking 'handmade' cigarettes compared to three percent of males with a university degree. Handmade cigarettes generally have a much higher tar/nicotine content and are also less likely to have a filter.

Among women, the tendency to smoke over 25 cigarettes per day declined with increasing education. In the lowest educational level, 11% of smokers smoked over 25 cigarettes per day compared to seven percent of women in the highest educational category. As with men, women in the lowest educational group were more likely to be smoking handmade cigarettes.

Tar/Nicotine Content

The 'tar' portion of cigarette smoke probably contains a major proportion of the carcinogenic elements of whole smoke.⁸ In this report, tar yield is arbitrarily divided into four major categories, 0-9 mg, 10-15 mg, 16 mg and over, and 'handmade'. The handmade category would imply cigarettes that exceed 16 mg because the fine-cut tobacco sold for roll-your-own cigarettes tends to have a higher tar/nicotine content. The delivery of tar/nicotine would also tend to be greater due to the absence of filters in most handmade cigarettes.

Age and Sex

Table 8 indicates that in 1986, almost half of regular smokers (48%) chose brands with 10-15 mg tar, and only 20% smoked lower tar varieties (0-9 mg.) In the total population of smokers, there was a tendency with increasing age to smoke higher tar cigarettes. Respondents over age 44 were twice as likely to smoke a higher tar cigarette than smokers in the 15-19 age group. Women smokers (Fig. 5) were more likely to choose a lower tar cigarette. Approximately 16% of men smoked cigarettes with a tar yield of 0-9 mg compared to 24% of women.

Region

Table 9 and Fig. 6 present data relating to the tar yield of cigarette smoked by region. Smokers in Quebec and Atlantic region were more likely to smoke cigarettes with a tar yield of 16 mg or more. In Ontario and Prairies regions, about 25% of smokers smoked cigarettes with a tar yield of 0-9 mg compared to 13 to 14% of smokers

in Atlantic and Quebec regions. In all regions except Prairies, males were more likely than females to smoke a higher tar cigarette.

Education

Respondents with 0-8 years of education were twice as likely to smoke higher tar cigarettes than those with a University degree (Table 10). About 26% of the former group smoked cigarettes with a tar yield that exceeded 16 mg, compared to 13% of the university-educated. In all educational groups, women were more likely to smoke lower tar yield cigarettes.

The tendency to smoke lower tar yield cigarettes does not necessarily imply a reduction in exposure to risk as smokers may make compensatory changes in their smoking behaviour (i.e. increasing the number of puffs per cigarette, and increasing the puff volume).⁹⁻¹² Compensatory changes in smoking behaviour among smokers of lower tar cigarettes could ultimately produce similar levels of exposure to the hazardous constituents of tobacco as experienced by high-tar-yield cigarette smokers. However, full compensation of dose for cigarettes with lower yields is generally not achieved.¹³

Smoking in the Workplace

Prevalence of Smoking in the Immediate Work Area

In 1986, a series of questions were added to the Labour Force Survey smoking supplement to assess the prevalence of smoking at work. Respondents were asked the following question: "Is smoking permitted in your immediate work area (that is, the place where you spend most of your working time)?" The interviewer provided the following examples of occupations and work areas to respondents:

- a bank teller at the counter
- a bus driver in the bus
- a nurse work floor or station
- an office worker desk or work station

For persons who worked outdoors, their immediate work area was still defined as the place where they spent most of their day. For example, in the case of self-employed fishermen who smoke on their boats, there are no restrictions imposed. Yet fishermen who work for someone else on a boat may not be allowed to smoke in the engine room, but may be allowed to smoke on other parts of the boat.

As shown in Table 11, 53% of respondents indicate that smoking is permitted in their immediate work area. Smoking is most likely to be permitted in transportation (67%), other crafts (67%), construction (65%),

managerial (65%) and clerical (58%) occupations. Smoking was least likely to be permitted in the professional (34%), mining (43%) and sales and service occupations (49%). The tendency of certain occupations to permit smoking in the immediate work environment should be viewed in the context of the degree of control an employee has over his behaviour, the prevalence of smoking within the occupational group, and social or structural constraints which may operate to diminish the likelihood of smoking. In the case of managers of a small business, they probably have more opportunity to decide what the rules will be with respect to smoking in their immediate work environment. Similarly, with respect to workers in the construction and transportation occupations, smoking rates tend to be high, the work is done outdoors, and the worker may not be interacting with the public on a continuous basis. These conditions would facilitate smoking among workers.

Designated Smoking Areas

Respondents were also asked the question, "At your place of work, are there areas that are designated as smoking and non-smoking?" This question attempts to measure the degree to which occupational environments place controls on the smoking behaviour of employees. Table 12 presents data relating to the existence of designated smoking areas by occupational group. Only 40% of respondents indicated that there were designated smoking and non-smoking areas at their place of work. The professional (55%) and mining occupations (52%) were most likely to have designated smoking areas. In the case of the latter occupation, the risk of explosions would be an inducement to establish designated areas. The establishment of designated smoking areas was least likely in the outdoor, construction and transportation occupations.

Attitudes toward Restriction of Smoking in the Workplace

Respondents were also asked their opinion about restriction on smoking in the workplace. Table 13 presents data on the distribution of responses to the question. Fifty-four percent of workers expressed the opinion that smoking should only be permitted in designated areas and 28% thought that smoking should not be permitted at all. Attitudes toward not permitting smoking at all were closely associated with the prevalence of smoking within an occupational group. About 31% of professional workers were supportive of not permitting smoking at all compared to 17% of mining and 18% of transportation workers. In general, there was strong support for placing some restrictions on smoking in the work environment. If respondents who favour permitting smoking in designated areas are combined with those that favour not permitting smoking at all, 88% of the work force support some form of restrictions. As expected, smokers were less likely to support a prohibition of smoking. About 11% of smokers believed that smoking should be prohibited compared to 35% of non-smokers. However, the fact that 11% of smokers favour a prohibition suggests that some smokers may desire environmental constraints on their smoking. For some smokers, it may be easier to quit smoking if the work environment does not facilitate the maintenance of the behaviour.

The workplace environment has enormous potential in improving the health of Canadian workers through the process of facilitating the efforts of employees to quit smoking and eliminating occupational exposure to tobacco smoke.¹⁴⁻¹⁵ One of the major challenges facing health promotion workers is to understand the mechanisms by which workers and management can bring about smoke-free work environments.

Attitudes toward Restriction of Smoking in Public Settings

The 1986 Labour Force Survey on smoking included a question relating to public opinion about the restriction of smoking in public settings. The question was: "In the following places, do you think smoking should be permitted, only permitted in restricted areas or not permitted at all?" Although proxy responses were accepted for some questions and for some age groups, they were not accepted for this question. Proxy respondents might be expected to know whether, and how much, a person smokes, but could not be expected to know about the attitudes and the work environment of the absent household member. The question was similar to one used by a recent population survey in Ontario.¹⁶

Table 14 presents the percentage distribution of responses to the question by sex and type of public setting. Among all respondents, the degree of support for a ban was as follows: doctors' offices (80%), inter-city buses (73%), movie theatres (69%), stores (68%), schools (72%), banks (61%), hospitals (58%), airplanes (49%), trains (41%), government offices (35%). The support for a ban was least for restaurants (27%) and the workplace (28%).

Attitudes toward restriction of smoking were, in general, consistent with reported findings.¹⁷ Canadians generally favour restrictions on tobacco smoke in public settings. The consensus appears to be that smoking should only be permitted in restricted areas or not permitted at all. A number of factors affect the extent and acceptability of smoking in public settings. Among them are the historical acceptance of smoking in the setting, the degree to which non-smokers are exposed to involuntary smoking, determined by the facility's size, degree of ventilation, and ease of separating smokers and non-smokers. The degree of inconvenience that smoking restrictions pose to smokers is another factor.¹¹ The strong support for a ban in doctors' offices is probably related to the small size of waiting rooms, the perception of physician disapproval of smoking, and the association of smoking with illness.

The proportion of Canadians who favour a total ban on smoking on aircraft (49%) appears low. However, one would anticipate that the proportion of adults in the general population who favour a total ban would be lower than observed in samples based on people who fly on aircraft. Attitudes are probably closely linked to the salience of the question to respondents.

Although support for bans in restaurants and in the workplace is lower than anticipated, the majority of respondents favour permitting smoking only in restricted areas. Perhaps the support for a ban is lower in these contexts because of the greater potential for interpersonal conflict. In some work environments, non-smokers may not be aware of the hazards of recirculated respirable smoke particulates. This might decrease support for a ban.

Changes in Smoking Behaviour, 1966-1986

Age and Sex

This section of the report reviews some of the major trends in the smoking behaviour of Canadians. Table 15 and Fig. 7 present data on the percentage of regular smokers between 1966 and 1986. In 1966, 54% of males smoked regularly compared to 31% in 1986. Among women, the decline in smoking prevalence is less pronounced. About 37% of women smoked in 1966 compared to 26% in 1986.

Figures 8 and 9 compare the prevalence of regular smoking by age group in 1966 and 1986. Among males, smoking prevalence declined substantially over all age groups. Among women, reductions in smoking prevalence by age group is obvious for only two age groups, 20-24 and 45-64. There has been virtually no change in the 25-44 age group and an increase in smoking prevalence in the over 65 age group. The increase in smoking prevalence in the oldest age group probably reflects a cohort influence. As women who were in their teens during the Second World War enter the 65 and over age group, the prevalence of smoking in the older age group may increase further. The current trend in the smoking behaviour of women has important implications for the future pattern of lung cancer mortality. Recent reports suggest that lung cancer rates for Canadian women have doubled in the past decade and soon may surpass breast cancer as the leading cause of cancer deaths among women.¹⁸⁻¹⁹

Region

Figures 10 and 11 present data on the prevalence of regular cigarette smoking among men and women 15 years of age and over, by region, for 1966 and 1986. In all regions, there has been a substantial decline in the prevalence of smoking among men. However, among women, the decline in smoking prevalence is not as apparent. In Quebec and Atlantic regions, in particular, the decrease in the prevalence of smoking has been minimal. In Quebec, 33% of women smoked in 1966 compared to 31% in 1986. Corresponding rates in Atlantic region were 29% and 28%. The greatest reduction in smoking among women occurred in British Columbia where 37% of respondents were smokers in 1966 compared to 20% in 1986.

Education

Figures 12 and 13 display data relating to the prevalence of regular cigarette smoking by level of education in 1977 and 1986. At all educational levels, among both men and women, the prevalence of regular cigarette smoking decreased. Among males, the largest declines occurred among respondents who had intermediate levels of education. Decreases were in the order of 8 to 10 percentage points. For women with comparable levels of education, the decreases were less pronounced. The decrease in smoking prevalence in the two highest educational categories exceeded the decreases observed for males in those two categories. Within all educational groups, both the largest and smallest declines in smoking rates between 1977 and 1986 occurred among women. Smoking rates among women with a university degree declined by 15% compared to 1% among women with elementary school education.

Number of Cigarettes Smoked per Day

Fig. 14 presents data relating to the number of cigarettes smoked per day by regular smokers in 1966 and 1986. Among both men and women, the distribution of smokers by frequency has shifted toward the higher consumption categories. In 1966, 11% of males smoked over 25 cigarettes a day compared to 15% in 1986. Corresponding rates for women were 4% and 9%. Table 16 displays the percentage distribution of regular smokers by grouped number of cigarettes smoked daily for the survey years 1966, 1970, 1981 and 1986. In all age/sex specific groups over the time period, the proportion of smokers who reported that they smoked 1 to 10 cigarettes declined up to 1981 and then stabilized. Among both males and females, after age 25, the proportion who indicated that they smoked over 25 cigarettes per day increased again, only up to 1981, and then remained stable. The trend toward heavier smoking rates may reflect a combination of greater cessation rates among lighter smokers, and a tendency of smokers who shift to low-tar cigarettes to maintain their smoking frequency.

Tar/Nicotine Content, 1977-1986

In recent years, many Canadian smokers have switched to lower tar/nicotine cigarettes. From 1968 to 1981, tar averages of Canadian cigarettes declined from an average of 21.1 mg. to 13.5 mg. The market share of Canadian lower tar brands, arbitrarily defined as brands with nominal deliveries of tar less than or equal to 12 mg, represented 8% of the market in 1973 and 34% in 1981.²⁰ Table 17 presents data on the distribution of regular smokers over tar yield categories of cigarette brand from 1977 to 1986. Tar yields of cigarettes are continually changing and grouping by relative yield measurements does not necessarily imply differences in either the type or magnitude of their biological effects.

Between 1977 and 1986, the proportion of smokers who smoked cigarettes with a tar yield of 0-9 mg increased from 9% to 20% (Fig.15). The proportion of smokers who smoked handmade cigarettes increased from 7% in

1977 to 9% in 1986. A more detailed examination of the proportion of smokers who smoked cigarettes with a tar yield between 0-9 mg between 1977 and 1986 (data not shown) revealed that in 1977, 4% of all smokers smoked a cigarette with a tar yield of 5 mg or less. By 1986, the proportion increased to 7%. Among males, the proportion increased from 3% in 1977 to 4% in 1986. Corresponding proportions for women were 7% in 1977 and 11% in 1986.

Discussion of Results

The 1986 survey of the smoking behaviour of Canadians suggests a continuation in the secular decline of smoking rates. The prevalence of smoking is at a historic low for Canada and each of the provinces. Nevertheless, the estimate of regular smokers in 1986 is similar to the estimate of regular smokers in 1966. This is attributable to the increase in the absolute size of the population in the last two decades.

The data relating to the attitudes of Canadians toward smoking in the workplace may signal changes in the social environment that may lead to an acceleration of the decline in smoking in the future. A number of Canadian companies and corporations have already introduced or made considerable movement toward smoke-free workplaces. These include such diverse employers as Boeing Canada, the Toronto Globe and Mail, the Kingston Whig Standard, the Montreal Gazette, British Columbia Hydro, Bata Shoes, Canadian Hockey Industries, Bell Northern Research and Maritime Telephone and Telegraph. The City of Toronto has recently introduced a smoking in a public setting bylaw that is one of the most stringent in North America.

Even limited restrictions on smoking in the workplace can reduce the prevalence of smoking among employees and reduce the daily consumption of cigarettes by those employees who continue to smoke. The level of exposure of all employees to respirable suspended particulates is also diminished by workplace smoking restrictions.²¹

The federal government has introduced a ban on smoking in all workplaces except for designated smoking areas until January 1989. At that time, smoking will be banned completely in all federal public service settings. This workplace smoking policy will affect over 200 000 public servants.

The data relating to the issue of smoking in public settings also support the view that smoking is viewed by Canadians as a public health risk to both smokers and non-smokers who are exposed to cigarette smoke. The majority of Canadians favour more restrictive policies regarding smoking in public settings.

References

1. U.S. Department of Health and Human Services. *The health consequences of smoking: cardiovascular disease*. Rockville, Maryland: A Report of the Surgeon General, DHHS (PHS) 84-50204.
2. Rickert, W.S., Robinson, J.C., Collishaw, N.E. *Yields of tar, nicotine and carbon monoxide in the sidestream smoke from 15 brands of Canadian cigarettes*. American Journal of Public Health, 1984; 74: no. 3, pp. 228-231.
3. Dosman, J.A. *Occupational exposure and cigarette smoking: respiratory health protection in the workplace*. Journal of Public Health Policy, 1985; June, pp. 185-196.
4. U.S. Department of Health and Human Services. *The health consequences of involuntary smoking*. Rockville, Maryland: A Report of the Surgeon General, DHHS (CDC) 87-8398, 1987.
5. Wigle, D.T., Collishaw, N.E., Kirkbride, J. *Exposure of involuntary smokers to toxic components of tobacco smoke*. Canadian Journal of Public Health, 1987; 78: pp. 151-154.
6. Collishaw, N.E., Kirkbride, J., Wigle, D.T. *Tobacco smoke in the workplace: an occupation health hazard*. Canadian Medical Association Journal, 1984; 131: pp. 1199-1204.
7. Kozlowski, L.T. *Pack size, reported cigarette smoking rates, and public health*. American Journal of Public Health, 1986; 76: pp. 1337-1338.
8. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: Cancer*. Rockville, Maryland: A Report of the Surgeon General, DHHS (PHS) 82-50179, 1982.
9. Benowitz, N.L., Jacob, P., Kozlowski, L., Yu, L. *Influence of smoking fewer cigarettes on exposure to tar, nicotine, and carbon monoxide*. New England Journal of Medicine, 1986; 315: pp. 1310-1313.
10. Rickert, W.S., Collishaw, N.E., Bray, D.F., Robinson, J.C. *Estimates of maximum or average cigarette tar, nicotine, and carbon monoxide yields can be obtained from yields under standard conditions*. Preventive Medicine, 1986; 15: pp. 82-91.
11. Kozlowski, L.T. *Less hazardous smoking and the pursuit of satisfaction*. American Journal of Public Health, 1987; 77: no. 5, pp. 539 -540.
12. Maron, D.J., Fortmann, S.P. *Nicotine yield and measures of cigarette smoke exposure in a large population: Are lower-yield cigarettes safer?* American Journal of Public Health, 1987; 77: no. 5, p. 546-549.
13. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: Chronic Obstructive Lung Disease*. Rockville, Maryland: A Report of the Surgeon General, DHHS (PHS) 84-5025, 1984.
14. Fielding, J.E. *Banning worksite smoking*. American Journal of Public Health, 1986; 76: pp. 957-959.

15. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: Cancer and Chronic Lung Disease in the Workplace*. Rockville, Maryland: A Report of the Surgeon General, DHHS (PHS) 85-50207, 1986.
16. Pederson, L.L., Bull, S., Ashley, M.J., Lefcoe, N.M. *A population survey on legislative measures to restrict smoking in Ontario: 1. Design, methodology, and sample representativeness*. American Journal of Preventive Medicine, 1986; 2(6): pp. 307-315.
17. Pederson, L.L., Bull, S., Ashley, M.J., Lefcoe, N.M. *A population survey on legislative measures to restrict smoking in Ontario: 2. Knowledge, attitudes, and predicted behaviour*. American Journal of Preventive Medicine, 1986; 2(6): pp. 316-323.
18. L'Abbe, K.A., Hoey, J.R. *Cigarette smoking, lung cancer and Canadian women*. Canadian Medical Association Journal, 1984; 130: pp. 1539-1540.
19. Mao, Y., Smith, H.M. *The lung cancer epidemic among Canadian women*. Chronic Diseases in Canada, 1983; 4:(3) 33.
20. Millar, W.J. *Smoking Behaviour of Canadians 1981*. Health Services and Promotion Branch, Health and Welfare Canada, Minister of Supply and Services, Ottawa, 1983.
21. Millar, W.J. *Evaluation of the impact of smoking restrictions in a government work setting*. Canadian Journal of Public Health, (in press)
22. Statistics Canada. *Methodology of the Canadian Labour Force Survey, 1976*. Occasional publication, catalogue 71-526, 1977.
23. Singh, M.P., Drew, J.D., Choudry, G.H. *Post 81 census redesign of the Canadian Labour Force Survey. Survey Methodology, A Journal of Statistics Canada*, 1984, catalogue 12-001; 10: no. 2.
24. Binder, D.A., Graton, M., Hidirogliou, M.A., Kumar, S., Rao, J.N.K. *Analysis of categorical data from surveys with complex designs: some Canadian experiences*. 1984, Statistics Canada, Ottawa.
25. Cochran, W.G. *Sampling techniques*, second edition, John Wiley and Sons, New York, 1963.
26. Millar, W.J. *Smoking prevalence among Canadian adolescents: A comparison of survey estimates*. Canadian Journal of Public Health, 1985; 76: pp. 33-37.

Figure 1

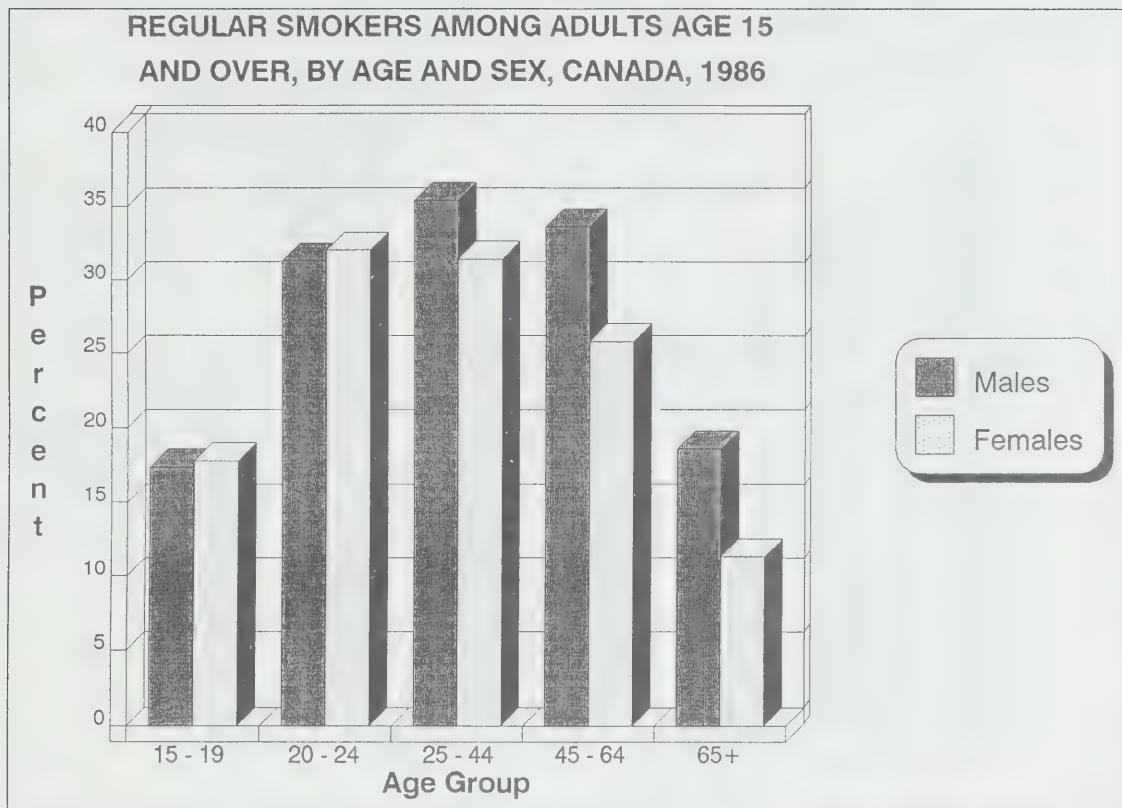


Figure 2

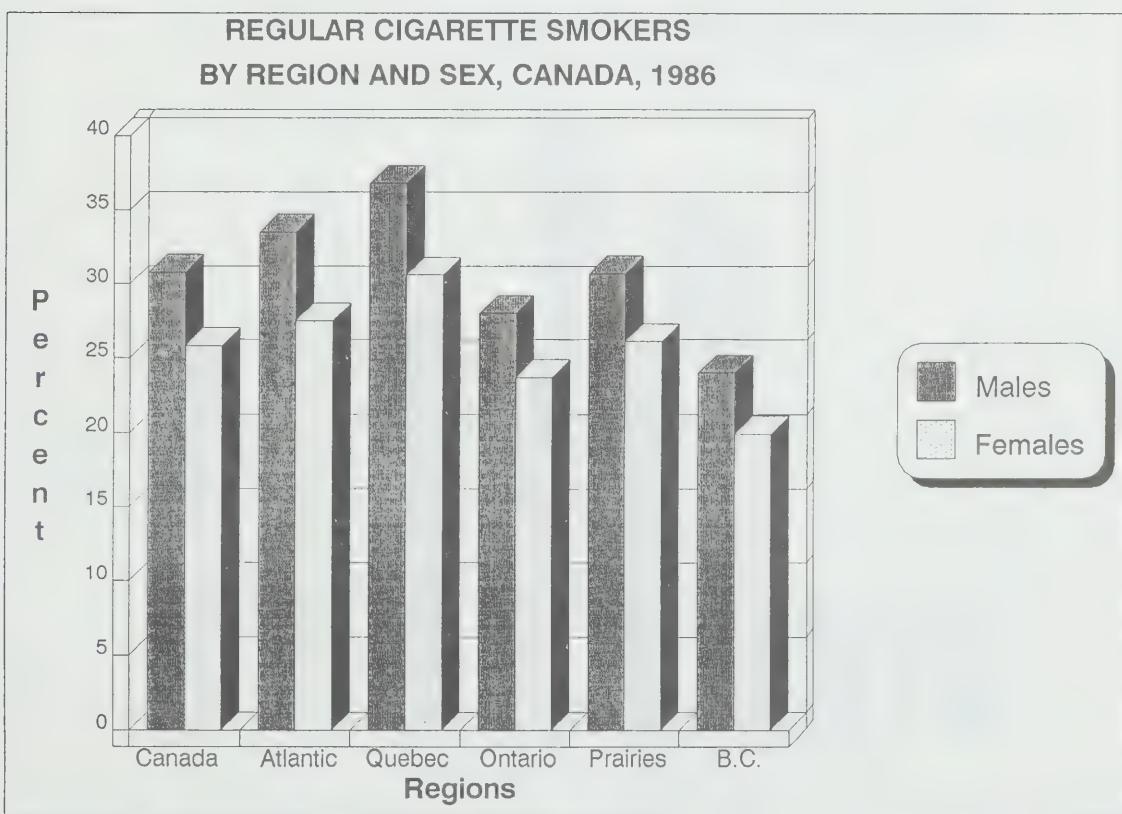


Figure 3

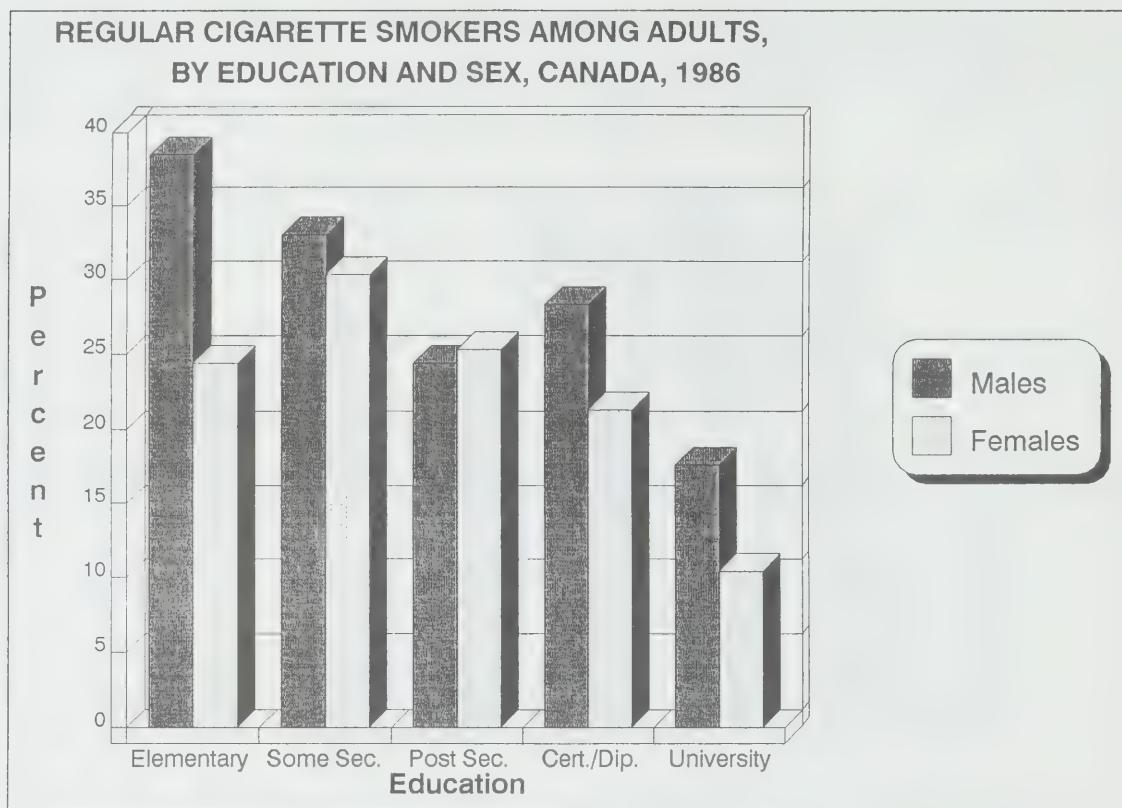


Figure 4

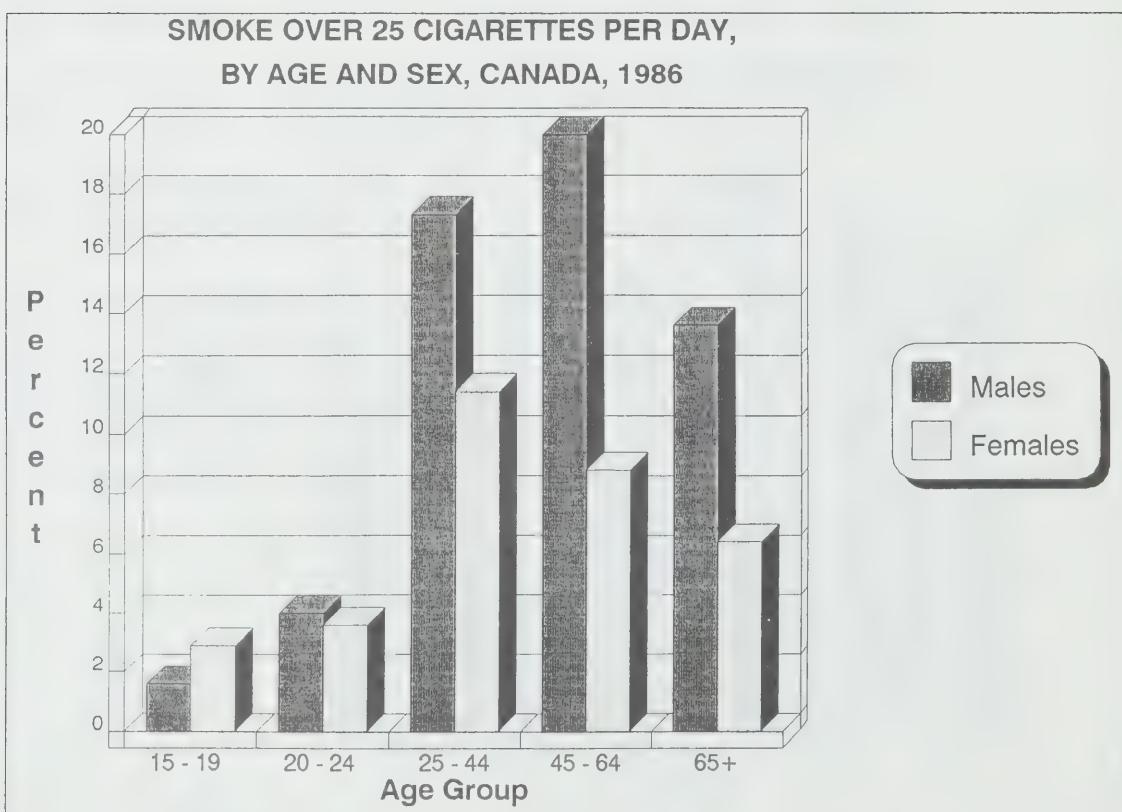


Figure 5

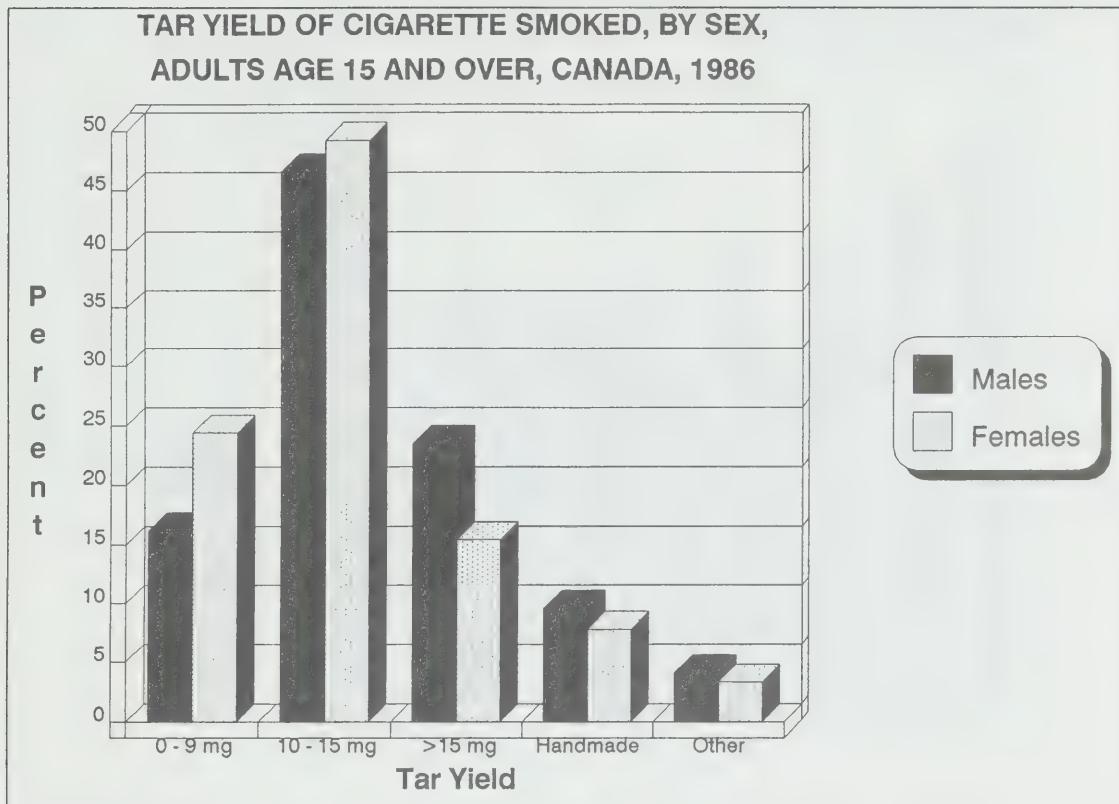


Figure 6

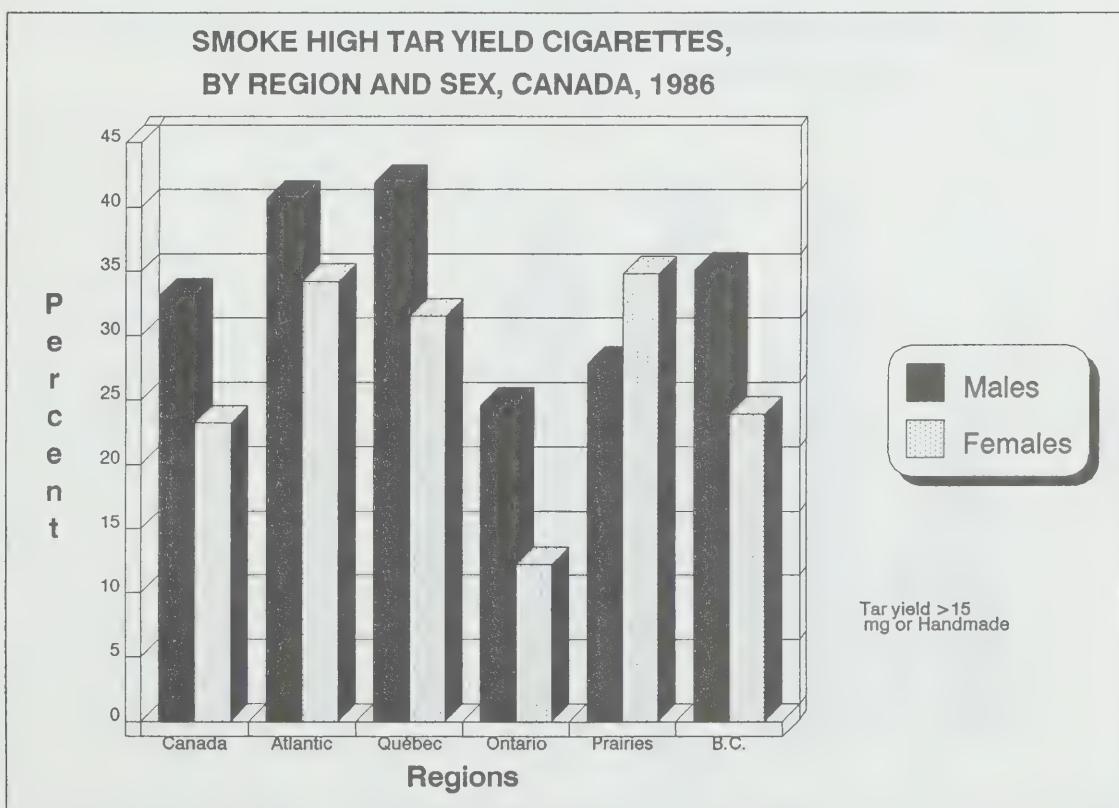


Figure 7

**REGULAR CIGARETTE SMOKERS AMONG ADULTS
AGE 15 AND OVER, BY SEX, CANADA, 1966-1986**

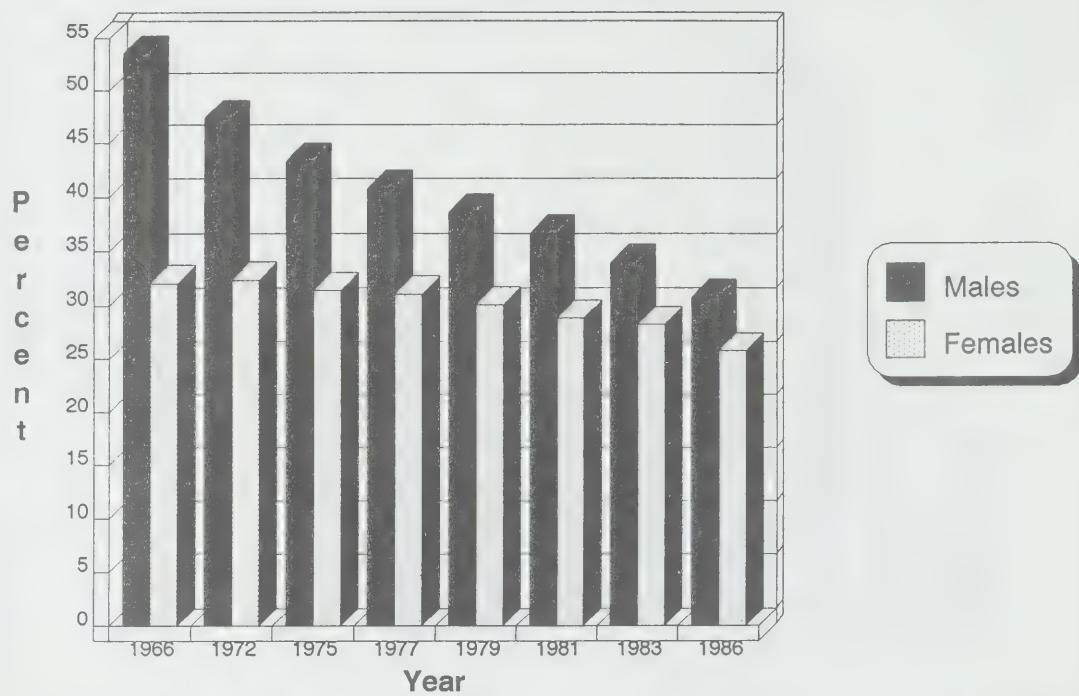


Figure 8

**REGULAR CIGARETTE SMOKERS AMONG MALES
BY AGE, CANADA, 1966 AND 1986**

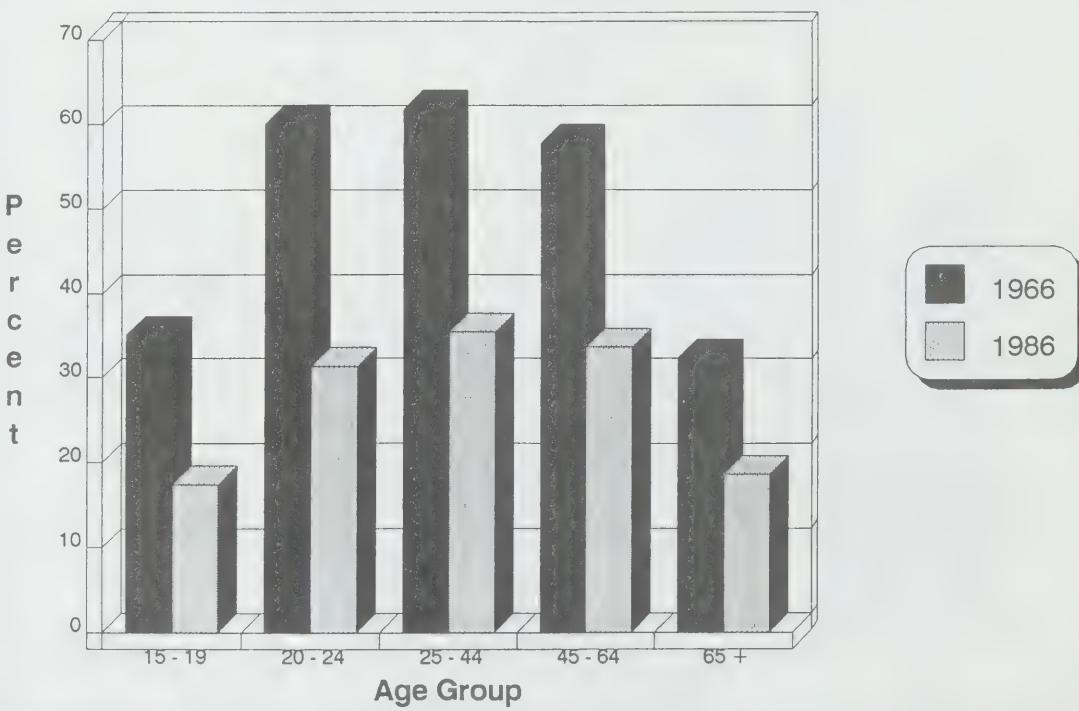


Figure 9

**REGULAR CIGARETTE SMOKERS AMONG FEMALES
BY AGE, CANADA, 1966 AND 1986**

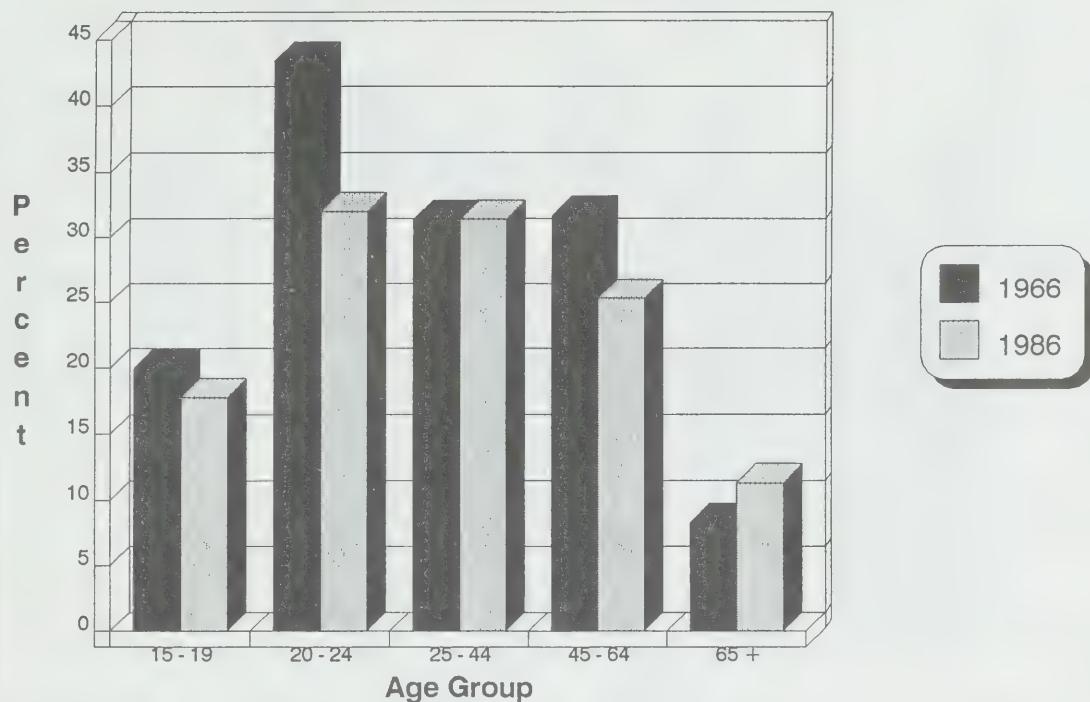


Figure 10

**REGULAR CIGARETTE SMOKERS AMONG MALES,
BY REGION, CANADA, 1966 AND 1986**

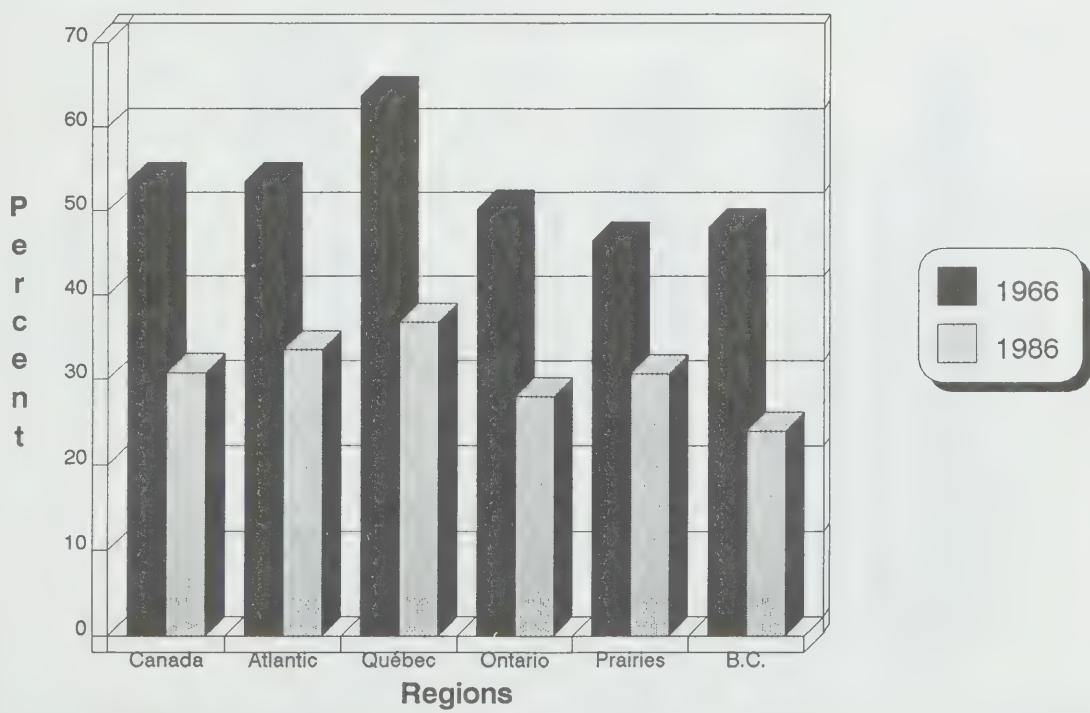


Figure 11

**REGULAR CIGARETTE SMOKERS AMONG FEMALES,
BY REGION, CANADA, 1966 AND 1986**

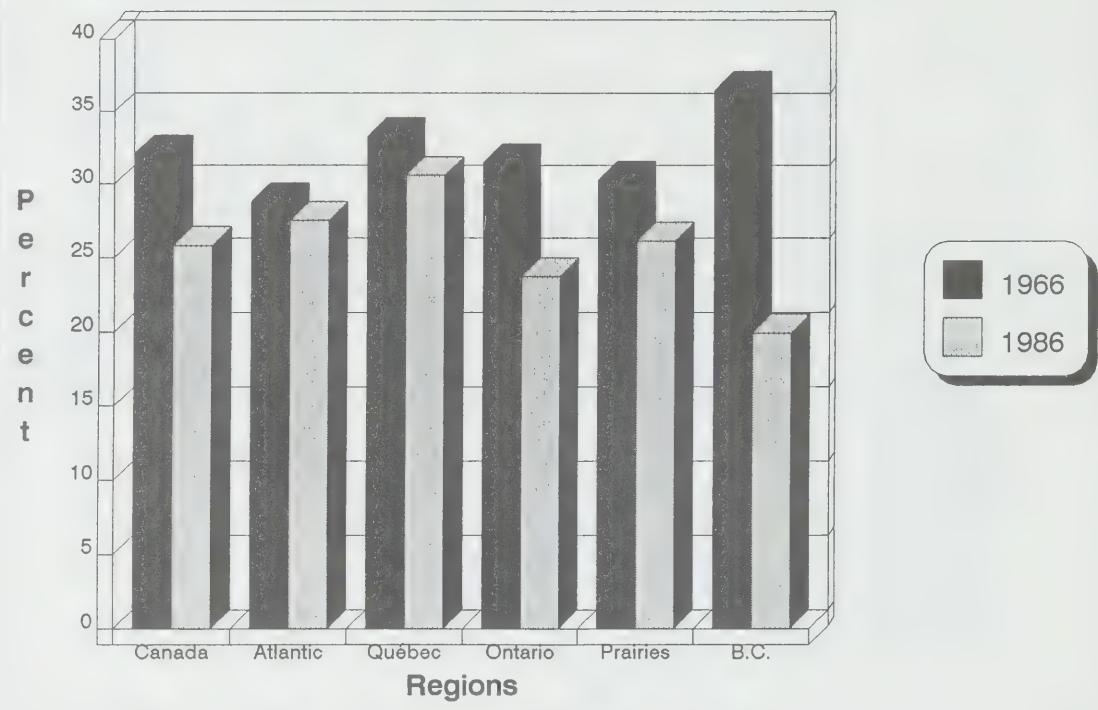


Figure 12

**REGULAR CIGARETTE SMOKERS AMONG MALES
BY EDUCATION, CANADA, 1977 AND 1986**

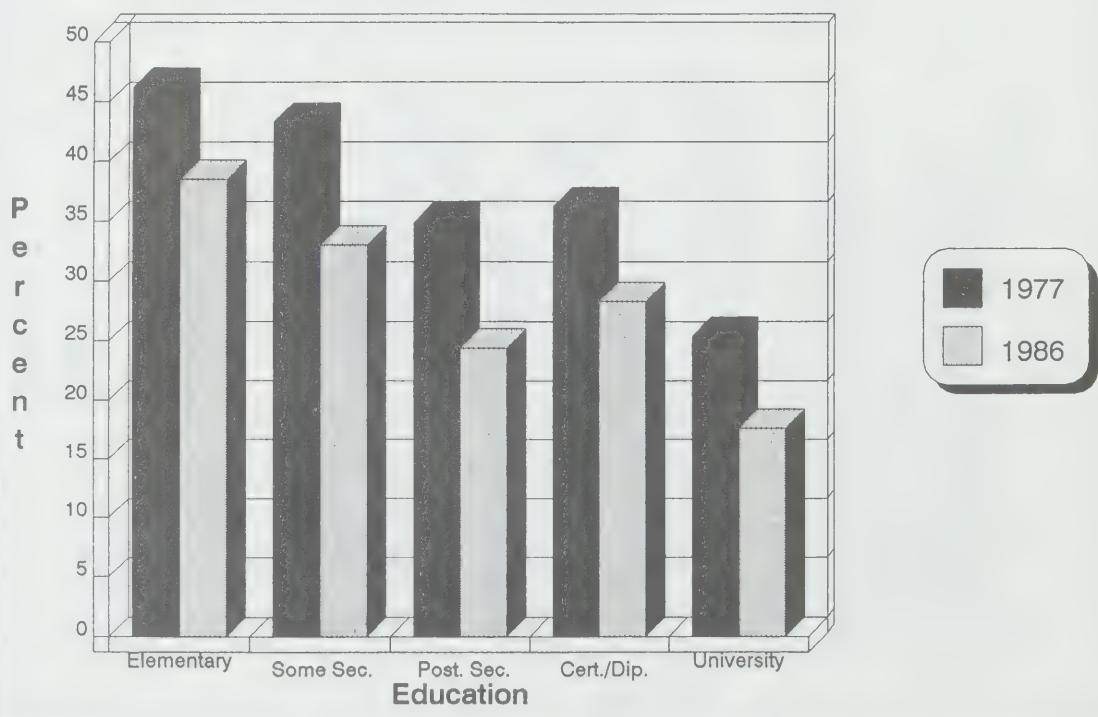


Figure 13

**REGULAR CIGARETTE SMOKERS AMONG FEMALES
BY EDUCATION, CANADA, 1977 AND 1986**

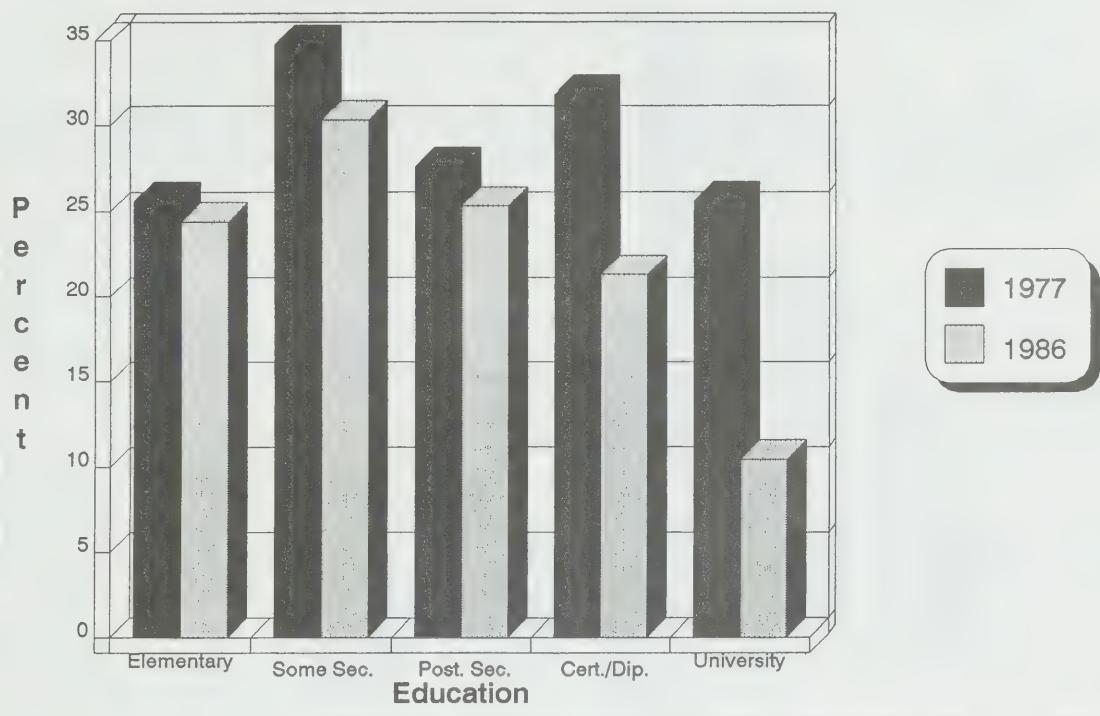


Figure 14

**NUMBER OF CIGARETTES SMOKED PER DAY, BY
REGULAR SMOKERS, BY SEX, CANADA, 1966 and 1986**

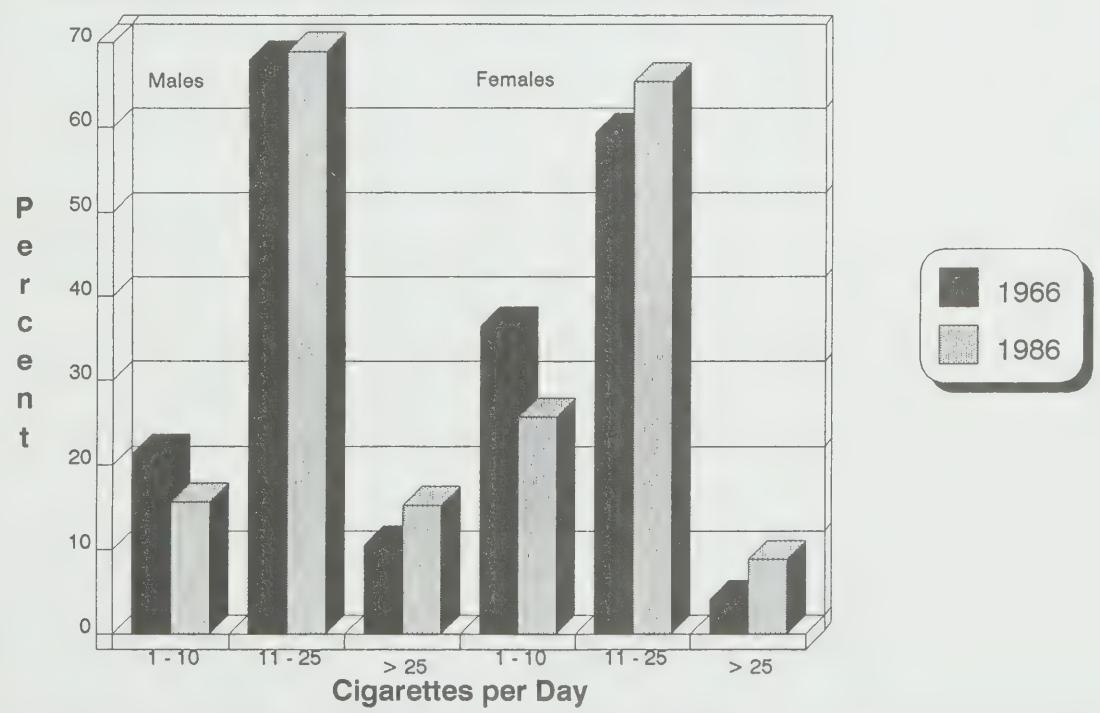


Figure 15

TAR YIELD OF CIGARETTE SMOKED BY REGULAR
CIGARETTE SMOKERS, CANADA, 1977 AND 1986

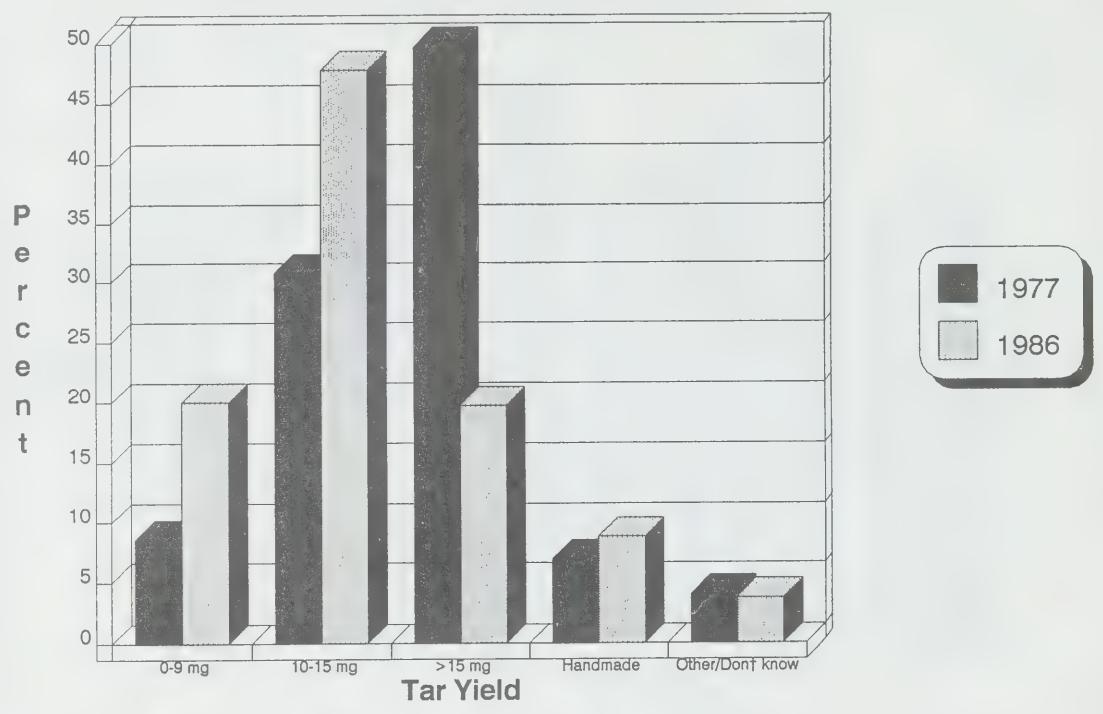


Table 1. Percentage Distribution of the Population 15 Years of Age and Over, by Smoking Behaviour, Sex and Age, Canada, 1986

Smoking Behaviour						
		Non Smokers		Regular Cigarette Smokers	Occasional Cigarette Smokers	Smoke Only Pipe and/or Cigar
		Total	Never Smoked	Former Smokers		
Both Sexes						
Total	15 years and over	19 694 185	44.4%	22.9%	28.2%	3.0%
	15-19	1 873 461	70.8	7.8	17.6	3.5
	20-24	2 238 867	49.6	13.5	31.7	4.6
	25-44	8 172 866	39.1	22.7	33.4	3.2
	45-64	4 860 648	38.1	28.2	29.4	2.4
	65 years and over	2 548 344	49.3	32.4	14.4	1.5
	20 years and over	17 820 724	41.6	24.5	29.4	2.9
Males						
Total	15 years and over	9 623 890	35.9	27.3	30.8	3.1
	15-19	957 977	70.8	7.9	17.4	3.8
	20-24	1 129 658	50.3	12.8	31.3	4.4
	25-44	4 054 787	33.7	24.4	35.4	3.5
	45-64	2 385 709	24.2	36.5	33.6	2.2
	65 years and over	1 095 759	24.4	50.0	18.6	1.8
	20 years and over	8 665 913	32.1	29.4	32.3	3.0
Females						
Total	15 years and over	10 070 295	52.5	18.6	25.8	2.9
	15-19	915 484	70.8	7.8	17.8	3.3
	20-24	1 109 209	48.9	14.2	32.0	4.8
	25-44	4 118 078	44.4	21.1	31.4	2.9
	45-64	2 474 939	51.4	20.3	25.3	2.6
	65 years and over	1 452 585	68.0	19.1	11.3	1.3
	20 years and over	9 154 811	50.6	19.7	26.6	2.8

Table 2. Percentage Regular Cigarette Smokers in the Adult Population, by Province, Sex and Age, Canada, 1986

	Canada					Province					
	Total	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Both Sexes											
Total 15 years and over	28.2%	31.1%	25.4%	30.6%	30.6%	33.6%	25.8%	27.7%	27.3%	29.1%	21.9%
15-19 years	17.6	19.2	8.6	18.9	20.6	21.9	15.5	13.4	16.0	19.4	13.8
20-24 years	31.7	34.5	27.8	37.7	34.7	37.4	27.9	25.2	32.5	31.1	29.7
25-44 years	33.4	37.8	32.5	38.2	36.6	38.6	31.0	34.7	34.6	32.6	25.3
45-64 years	29.4	30.4	29.3	31.0	30.3	34.8	27.0	30.8	28.2	31.3	22.3
65 years and over	14.4	18.3	11.9	12.2	18.0	18.4	12.7	15.8	11.5	15.9	11.4
20 years and over	29.4	33.0	27.4	32.0	31.9	34.8	26.8	29.2	28.6	30.2	22.7
Males											
Total 15 years and over	30.8	35.3	31.1	32.7	33.6	36.8	28.0	29.9	29.2	31.7	24.0
15-19 years	17.4	24.1	14.2	19.7	20.2	20.1	16.7	10.7	12.8	19.3	12.3
20-24 years	31.3	38.3	33.6	37.0	33.4	37.2	27.8	26.1	34.8	29.3	26.9
25-44 years	35.4	40.3	34.8	37.6	38.4	39.6	33.9	35.9	36.2	35.6	27.5
45-64 years	33.6	37.1	39.7	36.0	35.3	41.8	29.1	35.6	30.1	35.7	26.7
65 years and over	18.6	23.4	18.5	18.7	27.1	27.2	14.2	20.4	15.8	18.6	14.1
20 years and over	32.3	37.1	33.3	34.3	35.3	38.5	29.2	32.1	31.0	33.1	25.2
Females											
Total 15 years and over	25.8	26.9	19.8	28.7	27.8	30.6	23.7	25.5	25.5	26.6	19.9
15-19 years	17.8	14.2	2.7	18.0	20.9	23.7	14.3	16.1	19.3	19.5	15.4
20-24 years	32.0	30.6	21.8	38.3	36.1	37.6	27.9	24.4	30.0	33.0	32.5
25-44 years	31.4	35.3	30.1	38.8	34.8	37.5	28.3	33.6	33.1	29.4	23.1
45-64 years	25.3	23.5	19.2	26.3	25.5	28.2	25.0	26.3	26.3	26.9	18.0
65 years and over	11.3	13.8	6.8	7.2	10.8	12.1	11.5	12.3	7.9	13.8	9.4
20 years and over	26.6	28.9	21.8	29.8	28.6	31.2	24.6	26.5	26.1	27.4	20.3

Table 3. Percentage Regular Cigarette Smokers in the Adult Population, by Education, Sex and Age, Canada, 1986

Education						
	Total	0-8 Years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Total 15 years and over	28.2%	31.3%	31.6%	24.9%	24.5%	14.5%
15-19 years	17.6	25.3	17.4	13.5	8.6	-
20-24 years	31.7	48.0	41.2	21.3	23.1	6.5
25-44 years	33.4	45.2	39.5	32.5	26.9	15.3
45-64 years	29.4	34.8	30.0	20.7	27.2	16.8
65 years and over	14.4	17.5	14.0	7.7	7.2	6.1
20 years and over	29.4	31.6	34.2	26.0	24.7	14.5
Males						
Total 15 years and over	30.8	38.5	33.0	24.4	28.3	17.6
15-19 years	17.4	28.9	17.0	8.9	9.5	-
20-24 years	31.3	60.0	40.6	17.0	21.8	8.2
25-44 years	35.4	49.6	40.8	34.1	30.5	19.3
45-64 years	33.6	42.1	33.2	23.9	32.7	18.8
65 years and over	18.6	25.3	14.4	2.6	14.5	4.7
20 years and over	32.3	39.0	36.2	25.9	28.5	17.6
Females						
Total 15 years and over	25.8	24.4	30.3	25.3	21.3	10.4
15-19 years	17.8	21.2	17.7	17.4	8.0	-
20-24 years	32.0	34.8	41.8	26.0	24.2	5.2
25-44 years	31.4	40.9	38.3	31.1	23.7	10.4
45-64 years	25.3	27.2	27.4	17.5	22.5	13.4
65 years and over	11.3	10.7	13.8	10.7	3.7	8.8
20 years and over	26.6	24.5	32.4	26.1	21.5	10.4

- Data not available.

Table 4. Percentage Regular Cigarette Smokers in the Adult Population, by Sex and Occupation, Canada, 1986

Occupation	Total	Both Sexes Regular Smoker	Total Males	Males Regular Smoker	Total Females	Females Regular Smoker
Total	19 694 185	28.2%	9,623,890	30.7%	10,070,295	25.8%
Managerial	2 113 147	25.2	1,468,659	23.6	644,489	28.6
Professional	1 886 536	18.4	663,679	20.6	1,222,858	17.1
Clerical	2 593 007	30.2	494,296	33.0	2,098,711	29.5
Sales	1 495 577	27.1	782,864	25.8	712,713	28.6
Service	2 372 731	33.2	960,323	32.2	1,412,409	33.9
Outdoors	767 385	27.0	583,884	28.1	183,501	23.4
Mining	909 134	40.2	744,939	40.4	164,196	39.4
Fabricating	1 282 047	34.6	918,357	37.8	363,690	26.4
Construction	923 949	38.4	907,723	38.6	16,227	30.0
Transportation	547 844	41.8	513,092	42.4	34,752	32.9
Other Crafts	198 028	37.0	151,595	38.6	46,433	38.5
Never Worked	1 045 314	15.3	202,134	8.4	843,180	16.9
Not Applicable	3 168 165	23.7	938,933	26.9	2,229,232	22.3

Total refers to the total number of workers in the occupational category. Smokers are expressed as a percentage of the total number of workers in the occupational category.

Table 5. Percentage Distribution of Regular Smokers in the Adult Population, by Age, Sex and Number of Cigarettes Smoked per Day, Canada, 1986

Age Group						
	Total 15 Years and over	15-19	20-24	25-44	45-64	65 Years and over
Both Sexes						
Total regular smokers	5 562 424	329 164	708 664	2 729 367	1 427 294	367 935
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	20.4	40.7	22.8	16.7	19.1	29.7
11-25 cigarettes per day	67.3	57.1	73.5	68.7	65.8	59.8
Over 25 cigarettes per day	12.3	2.2	3.8	14.5	15.1	10.4
Males						
Total regular smokers	2 962 821	166 254	353 938	1 436 896	801 422	204 310
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	15.7	39.8	19.3	12.4	12.8	24.2
11-25 cigarettes per day	69.0	58.6	76.7	70.2	67.2	62.2
Over 25 cigarettes per day	15.3	1.6	4.0	17.3	20.0	13.6
Females						
Total regular smokers	2 599 603	162 910	354 726	1 292 471	625 872	163 625
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	25.7	41.6	26.2	21.5	27.2	36.7
11-25 cigarettes per day	65.4	55.5	70.2	67.0	64.0	56.9
Over 25 cigarettes per day	8.9	2.9	3.6	11.4	8.8	6.4

Table 6. Percentage Distribution of Regular Smokers in the Adult Population, by Region, Sex and Number of Cigarettes Smoked per Day, Canada, 1986

	Region					
	Total	Atlantic	Quebec	Ontario	Prairies	British Columbia
Both Sexes						
Total regular smokers	5 562 424	530 454	1 742 245	1 857 306	939 297	493 122
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	20.4	21.0	20.3	21.7	18.4	19.1
11-25 cigarettes per day	67.3	65.2	66.5	67.9	71.3	62.4
Over 25 cigarettes per day	12.3	13.8	13.2	10.4	10.4	18.5
Males						
Total regular smokers	2 962 821	285 584	927 112	980 646	504 425	265 055
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	15.7	17.2	15.2	16.3	15.0	14.6
11-25 cigarettes per day	69.0	64.9	69.2	70.3	71.7	62.6
Over 25 cigarettes per day	15.3	17.9	15.6	13.4	13.3	22.7
Females						
Total regular smokers	2 599 603	244 870	815 133	876 660	434 873	228 068
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	25.7	25.3	26.1	27.7	22.3	24.3
11-25 cigarettes per day	65.4	65.5	63.5	65.2	70.8	62.2
Over 25 cigarettes per day	8.9	9.2	10.4	7.1	6.9	13.5

Table 7. Percentage Distribution of Regular Smokers in the Adult Population, by Education, Sex and Number of Cigarettes Smoked per Day, Canada, 1986

Education						
	Total	0-8 Years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Total regular smokers	5 562 424	1 138 677	3 087 324	438 753	593 824	303 846
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	20.4	19.8	20.1	20.9	23.5	18.8
11-25 cigarettes per day	67.3	65.2	68.6	67.5	65.4	64.7
Over 25 cigarettes per day	12.3	15.0	11.3	11.6	11.1	16.5
Males						
Total regular smokers	2 962 821	689 910	1 535 137	212 310	315 636	209 828
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	15.7	16.4	15.6	17.4	14.4	14.0
11-25 cigarettes per day	69.0	66.1	70.4	68.7	70.9	65.4
Over 25 cigarettes per day	15.3	17.5	13.9	13.9	14.7	20.7
Females						
Total regular smokers	2 599 603	448 767	1 552 187	226 443	278 188	94 018
Percent	100.0	100.0	100.0	100.0	100.0	100.0
1-10 cigarettes per day	25.7	24.9	24.5	24.2	33.9	29.6
11-25 cigarettes per day	65.4	64.0	66.9	66.4	59.1	63.3
Over 25 cigarettes per day	8.9	11.1	8.6	9.4	7.0	7.1

Table 8. Percentage Distribution of Regular Smokers in the Adult Population, by Age, Sex and Tar Yield of Current Brand Smoked, Canada, 1986

	Age Group					
	Total 15 Years and over	15-19	20-24	25-44	45-64	65 Years and over
Both Sexes						
Total regular smokers	5 562 424	329 164	708 664	2 729 367	1 427 294	367 935
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	20.0	10.5	16.2	20.3	21.9	26.7
10-15 mg	47.8	63.4	55.8	49.0	41.1	35.4
16 mg and over	19.7	15.5	18.2	20.5	19.7	20.4
Handmade	8.8	5.9	6.8	7.1	12.5	13.1
Other	3.7	4.7	3.1	3.1	4.7	4.5
Males						
Total regular smokers	2 962 821	166 254	353 938	1 436 896	801 422	204 310
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	16.2	6.8	15.9	17.0	16.3	18.3
10-15 mg	46.6	63.5	50.7	48.6	41.0	33.8
16 mg and over	23.5	17.1	22.5	24.2	22.8	27.7
Handmade	9.6	6.1	6.2	6.9	14.8	16.1
Other	4.1	6.4	4.7	3.3	4.9	4.1
Females						
Total regular smokers	2 599 603	162 910	354 726	1 292 471	625 872	163 625
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	24.4	14.2	16.5	23.9	29.0	37.2
10-15 mg	49.2	63.3	61.0	49.5	41.3	37.4
16 mg and over	15.4	13.8	13.9	16.4	15.6	11.2
Handmade	7.8	5.7	7.3	7.2	9.6	9.3
Other	3.3	3.0	1.4	3.0	4.5	5.0

Table 9. Percentage Distribution of Regular Smokers in the Adult Population, by Region, Sex and Tar Yield of Current Brand Smoked, Canada, 1986

Region						
	Total	Atlantic	Quebec	Ontario	Prairies	British Columbia
Both Sexes						
Total regular smokers	5 562 424	530 454	1 742 245	1 857 306	939 297	493 122
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	20.0	12.7	14.2	24.7	25.4	21.0
10-15 mg	47.8	47.1	46.1	51.8	46.1	42.8
16 mg and over	19.7	22.3	23.3	16.1	18.8	19.1
Handmade	8.8	15.3	13.9	2.9	6.1	10.8
Other	3.7	2.6	2.5	4.6	3.6	6.2
Males						
Total regular smokers	2 962 821	285 584	927 112	980 646	504 425	265 055
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	16.2	9.3	11.3	20.1	21.7	16.1
10-15 mg	46.6	47.2	44.1	50.4	46.2	41.4
16 mg and over	23.5	25.3	26.8	21.1	21.2	23.0
Handmade	9.6	15.4	15.1	3.5	6.6	12.1
Other	4.1	2.9	2.8	4.8	4.3	7.3
Females						
Total regular smokers	2 599 603	244 870	815 133	876 660	434 873	228 068
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	24.4	16.6	17.4	29.7	29.6	26.7
10-15 mg	49.2	46.9	48.5	53.3	46.0	44.5
16 mg and over	15.4	18.9	19.3	10.6	16.0	14.6
Handmade	7.8	15.3	12.5	2.2	5.5	9.3
Other	3.3	2.3	2.3	4.2	2.8	4.9

Table 10. Percentage Distribution of Regular Smokers in the Adult Population, by Education, Sex and Tar Yield of Present Brand Smoked, Canada, 1986

Education						
	Total	0-8 Years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Total regular smokers	5 562 424	1 138 677	3 087 324	438 753	593 824	303 846
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	20.0	15.4	18.5	27.0	27.3	28.8
10-15 mg	47.8	38.6	51.3	50.1	45.9	47.4
16 mg and over	19.7	25.9	19.3	15.4	16.2	13.3
Hand made	8.8	17.1	7.8	3.5	5.3	1.9
Other	3.7	3.0	3.2	4.0	5.4	8.6
Males						
Total regular smokers	2 962 821	689 910	1 535 137	212 310	315 636	209 828
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	16.2	12.9	14.8	24.8	18.9	24.8
10-15 mg	46.6	36.8	50.7	46.7	46.9	48.3
16 mg and over	23.5	28.3	23.4	18.7	22.1	14.8
Hand made	9.6	18.2	7.9	4.2	7.0	2.7
Other	4.1	3.8	3.2	5.7	5.0	9.4
Females						
Total regular smokers	2 599 603	448 767	1 552 187	226 443	278 188	94 018
Percent	100.0	100.0	100.0	100.0	100.0	100.0
0-9 mg	24.4	19.3	22.1	29.1	36.8	37.7
10-15 mg	49.2	41.4	51.9	53.3	44.7	45.6
16 mg and over	15.4	22.2	15.2	12.3	9.4	9.9
Hand made	7.8	5.4	7.7	2.9	3.3	0.2
Other	3.3	1.8	3.2	2.4	5.8	6.6

Table 11. Percentage of Working Population Reporting That Smoking Was Permitted in Their Immediate Work Area, by Occupation and Sex, Canada, 1986¹

	Total	Managerial	Professional	Clerical	Sales	Services	Outdoor/Primary	Mining	Fabricating	Construction	Transportation	Other
Both Sexes												
Total working	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Yes	52.7	64.6	33.5	58.1	48.5	49.4	56.3	43.0	51.2	65.3	67.4	66.8
No	36.8	27.8	57.7	30.9	41.5	37.3	28.6	46.2	37.0	22.4	24.9	23.2
Do not know	10.5	7.6	8.8	11.0	10.1	13.3	15.1	10.8	11.7	12.3	7.7	9.9
Males												
Total working	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	57.8	67.0	40.6	57.4	57.6	52.8	59.5	46.7	56.5	65.3	70.2	61.2
No	31.6	24.8	50.5	27.5	33.2	34.3	25.9	43.0	32.3	22.4	21.9	27.0
Do not know	10.6	8.1	8.9	15.2	9.2	12.9	14.6	10.3	11.2	12.3	7.9	11.9
Females												
Total working	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	46.0	58.7	29.4	58.3	37.0	46.7	44.5	-	35.6	-	-	88.7
No	43.6	34.9	61.8	31.7	51.8	39.6	38.4	-	51.1	-	-	8.7
Do not know	10.4	6.4	8.8	10.0	11.2	13.6	17.1	-	13.3	-	-	2.6

¹ Respondents were asked the question "Is smoking permitted in your immediate work area?" Responses are based on persons who were employed at the time of the survey.

Table 12. Percentage Of Working Population Reporting Designated Smoking and Non-smoking Areas at Their Place of Work, by Occupation and Sex, Canada, 1986^{1,2}

	Total	Managerial	Professional	Clerical	Sales	Services	Outdoor/ Primary	Mining	Fabricating	Construction	Transportation	Other Crafts
Both Sexes												
Total working	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Yes	39.8	34.9	55.1	38.0	31.5	41.6	17.3	51.6	43.9	22.5	26.2	48.2
No	47.1	54.3	33.9	48.9	56.6	42.7	65.9	34.7	40.6	61.2	62.1	39.3
Do not know	13.2	10.8	11.0	13.0	11.9	15.7	16.7	13.7	15.5	16.3	11.7	12.5
Males												
Total working	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	36.4	32.8	47.5	39.3	25.4	42.9	18.6	50.1	40.8	22.3	26.1	46.9
No	49.7	55.5	41.0	41.9	63.4	39.9	65.2	36.3	43.9	61.4	61.8	40.2
Do not know	13.9	11.7	11.5	11.8	11.2	17.2	16.2	13.6	15.3	16.3	12.1	12.9
Females												
Total working	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	44.3	39.3	61.6	37.7	39.3	40.6	12.6	-	53.0	-	-	52.3
No	43.6	51.8	27.9	50.7	47.9	44.9	68.4	-	31.0	-	-	36.8
Do not know	12.1	8.9	10.5	11.6	12.8	14.5	19.0	-	16.0	-	-	10.9

¹ Column percentages may not add to 100% due to rounding.

² Respondents were asked the question "At your place of work, are there areas that are designated as smoking and non-smoking?" Responses are based on persons who were employed at the time of the survey

Table 13. Percentage Distribution of Attitudes toward the Restriction of Smoking in the Workplace, by Occupation and Sex, Canada, 1986^{1,2}

	Total	Managerial	Professional	Clerical	Sales	Services	Outdoor/Primary	Mining	Fabricating	Construction	Transportation	Other Crafts
Both Sexes												
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Yes, permitted	13.7	16.9	7.3	14.7	14.3	15.2	13.2	21.7	17.7	23.3	22.1	16.5
Yes, only in restricted areas	53.8	56.2	59.7	57.7	52.9	55.3	52.0	58.0	53.5	49.1	53.6	55.8
Not permitted at all	27.6	24.3	30.7	25.2	28.8	24.5	28.7	17.0	24.6	21.8	18.1	23.7
No opinion	4.9	2.5	2.3	2.4	4.1	4.9	6.1	3.3	4.3	5.8	6.3	4.1
Males												
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes, permitted	17.9	18.2	11.3	19.1	18.6	14.3	15.8	24.9	21.6	23.3	22.1	17.5
Yes, only in restricted areas	51.6	55.5	55.8	49.8	48.4	54.5	49.4	55.8	52.6	49.1	54.4	52.6
Not permitted at all	25.4	23.6	30.4	26.9	27.4	25.6	28.2	15.9	21.7	21.8	16.6	24.3
No opinion	5.2	2.7	2.4	4.1	5.7	5.6	6.6	3.4	4.1	5.8	6.9	5.6
Females												
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes, permitted	10.3	14.8	4.5	13.8	10.3	15.8	6.0	9.6	8.8	24.0	21.1	13.6
Yes, only in restricted areas	55.5	57.5	62.5	59.2	57.0	55.8	58.9	66.4	55.3	49.0	45.7	63.8
Not permitted at all	29.3	25.5	30.9	24.9	30.1	24.0	30.2	21.1	31.1	22.1	33.2	22.2
No opinion	4.9	2.3	2.2	2.1	2.7	4.5	4.9	2.9	4.8	5.0	-	99.6

¹ Percentages down columns may not total 100% due to rounding.

² Respondents were asked the question "Should smoking be permitted in the workplace?"

Table 14. Percentage Distribution of Attitudes toward the Restriction of Smoking in Various Settings, by Sex, Canada, 1986

	Doctors' Offices	Work-places	Hospi-tals	Restau-rants	Movie Theatres	Inter-city Buses	Trains	Govern-ment Offices	Stores	Schools	Banks	Air-planes
Both Sexes												
Permitted	4.6%	13.7%	2.4%	10.4%	3.9%	4.7%	6.5%	11.1%	9.4%	2.7%	13.3%	5.5%
Only permitted in restricted areas	12.7	53.8	37.2	59.4	23.2	18.0	48.6	47.1	18.5	23.1	20.5	41.6
Not permitted at all	80.0	27.6	58.2	27.3	69.3	73.2	41.0	35.4	68.2	71.6	61.1	49.1
No opinion	2.8	5.0	2.2	2.8	3.5	4.1	3.9	6.5	3.9	2.6	5.0	3.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Males												
Permitted	6.0	17.9	3.4	12.2	5.5	6.6	8.4	13.9	13.3	3.9	16.9	7.3
Only permitted in restricted areas	13.3	51.6	36.2	56.7	23.8	19.0	49.0	45.3	19.0	23.7	21.0	41.6
Not permitted at all	77.6	25.4	57.8	27.8	67.2	69.9	38.5	34.5	63.0	69.5	57.1	47.4
No opinion	3.1	5.1	2.6	3.2	3.6	4.5	4.1	6.3	4.7	2.9	5.0	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females												
Permitted	3.4	10.3	1.7	9.0	2.6	3.2	5.0	8.8	6.3	1.8	10.5	4.1
Only permitted in restricted areas	12.2	55.5	37.9	61.5	22.8	17.2	48.3	48.4	18.1	22.6	20.2	41.5
Not permitted at all	81.8	29.3	58.5	26.9	71.0	75.9	42.9	36.1	72.3	73.4	64.3	50.4
No opinion	2.5	4.9	1.8	2.6	3.5	3.7	3.8	6.6	3.3	2.3	5.1	3.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 15. Percentage Regular Cigarette Smokers in the Population 15 Years of Age and Over, by Sex and Age, Canada, 1966-1986

	% Regular Cigarette Smokers							
	1966	1970	1972	1977	1979	1981	1983	1986
Both Sexes								
Total 15 years and over	42.8%	40.6%	39.8%	35.9%	34.2%	32.7%	31.1%	28.2%
15 - 19	27.6	30.6	31.7	26.8	26.4	23.1	20.3	17.6
20 - 24	51.7	47.7	47.3	43.0	41.1	40.4	37.3	31.7
25 - 44	46.7	47.7	46.1	41.8	40.0	38.0	36.4	33.4
45 - 64	44.8	41.2	40.6	36.3	34.5	33.7	31.6	29.4
65 years and over	19.5	20.1	19.3	18.8	16.7	15.3	16.4	14.4
20 years and over	45.3	42.2	43.3	37.3	35.4	34.0	32.4	29.4
Males								
Total 15 years and over	53.6	48.9	47.4	40.8	38.6	36.7	34.0	30.8
15 - 19	35.1	35.7	35.0	26.9	26.8	22.8	20.3	17.4
20 - 24	60.1	52.9	52.6	45.2	42.3	39.9	37.3	31.3
25 - 44	61.8	55.5	53.3	47.0	44.0	42.6	39.0	35.4
45 - 64	57.8	51.3	50.0	42.3	40.5	39.3	35.6	33.6
65 years and over	32.3	31.4	30.4	27.5	24.6	21.3	22.1	18.6
20 years and over	56.7	51.1	49.5	43.0	40.4	38.7	35.7	32.3
Females								
Total 15 years and over	32.1	32.4	32.4	31.1	30.1	28.9	28.3	25.8
15 - 19	20.0	24.9	28.4	26.7	26.0	23.4	20.3	17.8
20 - 24	43.4	41.4	40.6	40.7	39.8	40.8	37.3	32.0
25 - 44	31.4	40.0	38.8	36.6	36.0	33.4	33.9	31.4
45 - 64	31.7	31.5	31.6	30.5	28.9	28.5	27.8	25.3
65 years and over	8.3	10.5	10.4	12.0	10.6	10.8	12.1	11.3
20 years and over	34.0	33.6	33.0	31.8	30.7	29.6	29.3	26.6

Table 16. Percentage Distribution of Regular Smokers by Number of Cigarettes Smoked per Day, by Sex and Age, Canada, 1966-1986

Age/Sex	Cigarettes Smoked per Day											
	1 - 10				11 - 25				> 25			
	1966	1970	1981	1986	1966	1970	1981	1986	1966	1970	1981	1986
Both Sexes												
Total 15 years and over	26.9	24.6	19.7	20.4	65.0	65.8	67.8	67.3	8.2	9.6	12.5	12.3
15 - 19	49.3	48.2	37.8	40.7	47.8	49.2	59.5	57.1	2.9	2.6	2.7	2.2
20 - 24	27.5	24.3	20.7	22.8	67.6	69.4	72.4	73.5	5.1	6.3	6.9	3.8
25 - 44	22.1	18.7	15.7	16.7	68.9	70.2	69.3	68.7	9.1	11.1	15.0	14.5
45 - 64	24.9	22.3	17.3	19.1	65.0	65.8	66.8	65.8	10.1	11.9	15.9	15.1
65 years and over	40.5	36.8	32.4	29.7	53.5	55.2	60.9	59.8	6.0	8.0	6.7	10.4
Males												
Total 15 years and over	21.4	20.3	17.6	15.7	68.1	67.5	67.3	69.0	10.6	12.2	15.1	15.3
15 - 19	46.9	45.7	40.4	39.8	49.4	52.1	56.1	58.6	3.7	2.2	3.5	1.6
20 - 24	20.5	20.8	19.9	19.3	73.1	71.6	72.8	76.7	6.4	7.6	7.3	4.0
25 - 44	15.5	13.3	13.5	12.4	72.6	72.4	68.6	70.2	11.9	14.4	17.9	17.3
45 - 64	19.0	17.7	15.0	12.8	67.7	66.7	65.6	67.2	13.3	15.8	19.4	20.0
65 years and over	37.8	33.4	25.6	24.2	55.1	56.7	66.0	62.2	7.4	9.6	8.4	13.6
Females												
Total 15 years and over	36.5	31.2	22.3	25.7	59.6	63.2	68.5	65.4	4.2	5.6	9.2	8.9
15 - 19	54.5	53.0	35.1	41.6	42.2	45.4	63.0	55.5	3.3	1.6	1.9	2.9
20 - 24	38.0	29.0	21.4	26.2	59.3	66.4	72.0	70.2	2.7	4.8	6.6	3.6
25 - 44	32.1	26.3	18.5	21.5	63.0	67.0	70.1	67.0	4.7	6.8	11.4	11.4
45 - 64	36.3	29.8	20.4	27.2	59.7	64.1	68.3	64.0	4.0	6.0	11.3	8.8
65 years and over	49.4	46.7	42.6	36.7	48.3	51.4	53.2	56.9	2.3	1.9	4.2	6.4

Table 17. Percentage Distribution of Regular Smokers by Grouped Tar Yield of Cigarette Brand Smoked, by Sex, Canada, 1977-1986

	Tar Yield				
	0-9 mg	10-15 mg	> 15 mg	Handmade	Other/Don't know
Both Sexes					
1977	8.6%	30.8%	49.7%	6.9%	4.0%
1979	13.6	37.1	39.8	6.2	3.3
1981	18.8	41.2	32.1	6.4	1.5
1983	19.4	47.9	24.6	6.3	1.8
1986	20.0	47.8	19.7	8.8	3.7
Males					
1977	6.5	26.5	53.8	8.3	4.9
1979	9.9	33.7	44.9	7.5	4.0
1981	14.3	40.1	35.9	8.0	1.7
1983	15.5	46.3	28.7	7.3	2.2
1986	16.2	46.6	23.5	9.6	4.1
Females					
1977	11.3	36.3	44.5	5.2	2.7
1979	18.1	41.3	33.4	4.5	2.7
1981	24.3	42.4	27.4	4.6	1.3
1983	23.8	49.7	19.8	5.2	1.5
1986	24.4	49.2	15.4	7.8	3.2

Appendices

Appendix I - List of Selected Tables on Smoking

18. Number of Regular Smokers in the Adult Population, by Age and Sex, Canada and Provinces, 1986	42
19. Number of Regular Smokers in the Adult Population, by Education, Sex and Age, Canada, 1986	43
20. Percentage Regular Smokers in the Adult Population, by Region, Sex and Age, Canada, 1986	44
21. Number of Regular Smokers in the Adult Population, by Region, Sex and Age, Canada, 1986	45
22. Percentage Regular Smokers in the Adult Population, by Education, Sex and Region, Canada, 1986	46
23. Number of Regular Smokers in the Adult Population, by Education, Sex and Region, Canada, 1986	47
24. Percentage Non-smokers in the Adult Population, by Region, Sex, and Age, Canada, 1986	48
25. Number of Non-Smokers in the Adult Population, by Region, Sex and Age, Canada, 1986	49
26. Percentage Non-smokers in the Adult Population, by Education, Sex and Region, Canada, 1986	50
27. Number of non-smokers in the Adult Population, by Education, Sex and Region, Canada, 1986	51
28. Percentage of the Adult Population Who Never Smoked. by Education, Sex and Age, Canada, 1986	52
29. Percentage of the Adult Population Who Never Smoked, by Region, Sex and Age, Canada, 1986	53
30. Percentage of the Adult Population Who Never Smoked, by Education, Sex and Region, Canada, 1986	54

Table 18. Number of Regular Cigarette Smokers in the Adult Population, by Age and Sex, Canada and Provinces, 1986

		Province									
	Total	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Both Sexes											
Total 15 years and over	5 562 424	133 382	24 398	206 213	166 461	1 742 245	1 857 306	222 802	202 191	514 304	493 122
15-19 years	329 164	11 051	890	13 215	12 183	100 798	105 927	10 458	11 770	34 942	27 928
20-24 years	708 664	19 744	3 257	29 970	22 860	220 359	227 333	23 140	28 281	65 669	68 051
25-44 years	2 729 367	66 482	12 155	102 308	80 476	856 418	905 463	110 041	99 165	264 030	232 830
45-64 years	1 427 294	27 271	6 282	48 575	37 489	452 486	498 460	59 202	49 353	121 951	126 226
65 years and over	367 935	8 834	1 813	12 145	13 453	112 184	120 124	19 961	13 623	27 712	38 087
20 years and over	5 233 261	122 332	23 508	192 997	154 278	1 641 447	1 751 379	212 343	190 421	479 362	465 194
Males											
Total 15 years and over	2 962 821	75 401	14 697	106 310	89 176	927 112	980 646	117 234	107 154	280 036	26 055
15-19 years	166 254	7 032	755	7 082	6 142	47 265	58 315	4 264	4 849	17 853	12 696
20-24 years	353 938	11 033	2 011	14 667	11 058	110 753	114 973	12 010	15 360	31 076	30 996
25-44 years	1 436 896	35 135	6 506	49 021	41 757	437 308	486 196	56 563	52 211	146 645	125 554
45-64 years	801 422	16 899	4 190	27 431	21 302	262 972	263 991	33 264	26 204	70 038	75 130
65 years and over	204 310	5 301	1 234	8 107	8 917	68 813	57 170	11 134	8 530	14 424	20 678
20 years and over	2 796 567	68 368	13 942	99 228	83 034	879 847	922 331	112 971	102 305	262 183	252 358
Females											
Total 15 years and over	2 599 603	57 982	9 701	99 903	77 285	815 133	876 660	105 568	95 037	234 267	22 068
15-19 years	162 910	4 019	135	6 133	6 041	53 533	47 611	6 195	6 921	17 089	15 232
20-24 years	354 726	8 710	1 245	15 303	11 802	109 605	112 361	11 130	12 921	34 593	37 055
25-44 years	1 292 471	31 347	5 649	53 287	38 719	419 110	419 267	53 478	46 954	117 385	107 276
45-64 years	625 872	10 373	2 092	21 143	16 187	189 514	234 468	25 938	23 149	51 912	51 096
65 years and over	163 625	3 533	580	4 037	4 536	43 371	62 953	8 827	5 092	13 287	17 408
20 years and over	2 436 694	53 963	9 566	93 770	71 243	761 600	829 049	99 373	88 117	217 178	212 836

**Table 19. Number of Regular Smokers in the Adult Population,
by Education, Sex and Age, Canada, 1986**

Education						
	Total	0-8 Years	Some Secondary and No Post- secondary	Some Post- secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Total 15 years and over	5 562 424	1 138 677	3 087 324	438 753	593 824	303 846
15-19 years	329 164	39 555	265 277	22 228	2 104	—
20-24 years	708 664	51 243	454 248	99 550	93 485	10 137
25-44 years	2 729 367	331 803	1 582 154	260 177	352 794	202 439
45-64 years	1 427 294	513 368	649 508	49 485	131 327	83 607
65 years and over	367 935	202 709	136 137	7 314	14 114	7 662
20 years and over	5 233 261	1 099 123	2 822 047	416 526	591 719	303 846
Males						
Total 15 years and over	2 962 821	689 910	1 535 137	212 310	315 636	209 828
15-19 years	166 254	24 391	134 273	6 724	865	—
20-24 years	353 938	33 588	231 107	41 263	42 559	5 422
25-44 years	1 436 896	179 646	791 151	135 037	189 664	141 399
45-64 years	801 422	315 963	324 545	28 386	73 306	59 222
65 years and over	204 310	136 323	54 060	900	9 242	3 786
20 years and over	2 796 567	665 519	1 400 864	205 586	314 771	209 828
Females						
Total 15 years and over	2 599 603	448 767	1 552 187	226 443	278 188	94 018
15-19 years	162 910	15 163	131 004	15 503	1 239	—
20-24 years	354 726	17 656	223 141	58 287	50 926	4 716
25-44 years	1 292 471	152 157	791 003	125 140	163 131	61 041
45-64 years	625 872	197 405	324 963	21 098	58 021	24 386
65 years and over	163 625	66 386	82 077	6 414	4 871	3 876
20 years and over	2 436 694	433 604	1 421 183	210 940	276 949	94 018

— Data not available.

Table 20. Percentage Regular Smokers in the Adult Population, by Region, Sex and Age, Canada, 1986

	Region					
	Total	Atlantic	Quebec	Ontario	Prairies	British Columbia
Both Sexes						
Total 15 years and over	28.2%	30.5%	33.6%	25.8%	28.4%	21.9%
15-19 years	17.6	18.9	21.9	15.5	17.2	13.8
20-24 years	31.7	35.4	37.4	27.9	30.0	29.7
25-44 years	33.4	37.3	38.6	31.0	33.5	25.3
45-64 years	29.4	30.5	34.8	27.0	30.5	22.3
65 years and over	14.4	15.2	18.4	12.7	14.6	11.4
20 years and over	29.4	31.9	34.8	26.8	29.6	22.7
Males						
Total 15 years and over	30.8	33.5	36.8	28.0	30.7	24.0
15-19 years	17.4	20.8	20.1	16.7	15.9	12.3
20-24 years	31.3	36.1	37.2	27.8	29.8	26.9
25-44 years	35.4	38.4	39.6	33.9	35.8	27.5
45-64 years	33.6	36.2	41.8	29.1	34.4	26.7
65 years and over	18.6	22.3	27.2	14.2	18.3	14.1
20 years and over	32.3	35.2	38.5	29.2	32.4	25.2
Females						
Total 15 years and over	25.8	27.5	30.6	23.7	26.1	19.9
15-19 years	17.8	17.0	23.7	14.3	18.7	15.4
20-24 years	32.0	34.7	37.6	27.9	30.3	32.5
25-44 years	31.4	36.2	37.5	28.3	31.1	23.1
45-64 years	25.3	25.0	28.2	25.0	26.6	18.0
65 years and over	11.3	9.6	12.1	11.5	11.7	9.4
20 years and over	26.6	28.8	31.2	24.6	26.9	20.3

Table 21. Number of Regular Smokers in the Adult Population, by Region, Sex and Age, Canada, 1986

	Region					
	Total	Atlantic	Quebec	Ontario	Prairies	British Columbia
Both Sexes						
Total 15 years and over	5 562 424	530 454	1 742 245	1 857 306	939 297	493 122
15-19 years	329 164	37 339	100 798	105 927	57 171	27 928
20-24 years	708 664	75 830	220 359	227 333	117 090	68 051
25-44 years	2 729 367	261 421	856 418	905 463	473 235	232 830
45-64 years	1 427 294	119 618	452 486	498 460	230 506	126 226
65 years and over	367 935	36 246	112 184	120 124	61 295	38 087
20 years and over	5 233 261	493 114	1 641 447	1 751 379	882 126	465 194
Males						
Total 15 years and over	2 962 821	285 584	927 112	980 646	504 425	265 055
15-19 years	166 254	21 011	47 265	58 315	26 966	12 696
20-24 years	353 938	38 770	110 753	114 973	58 446	30 996
25-44 years	1 436 896	132 420	437 308	486 196	255 419	125 554
45-64 years	801 422	69 823	262 972	263 991	129 506	75 130
65 years and over	204 310	23 560	68 813	57 170	34 088	20 678
20 years and over	2 796 567	264 573	879 847	922 331	477 459	252 358
Females						
Total 15 years and over	2 599 603	244 870	815 133	876 660	434 873	228 068
15-19 years	162 910	16 328	53 533	47 611	30 205	15 232
20-24 years	354 726	37 060	109 605	112 361	8 644	37 055
25-44 years	1 292 471	129 001	419 110	419 267	217 817	107 276
45-64 years	625 872	49 795	189 514	234 468	101 000	51 096
65 years and over	163 625	12 686	43 371	62 953	27 207	17 408
20 years and over	2 436 694	228 542	761 600	829 049	404 668	212 836

Table 22. Percentage Regular Smokers in the Adult Population, by Education, Sex and Region, Canada, 1986

Education						
	Total	0-8 years	Some Secondary and No Post-secondary	Some Post-secondary	Post secondary Certificate or Diploma	University Degree
Both Sexes						
Canada	28.2%	31.3%	31.6%	24.9%	24.5%	14.5%
Atlantic	30.5	36.5	32.6	22.7	23.8	16.7
Quebec	33.6	37.2	36.4	28.8	27.6	22.2
Ontario	25.8	26.7	29.5	25.5	23.5	10.6
Prairies	28.4	26.2	33.0	25.4	26.2	14.7
British Columbia	21.9	22.7	25.7	18.3	17.7	11.1
Males						
Canada	30.8	38.5	33.0	24.4	28.3	17.6
Atlantic	33.5	41.4	34.6	22.8	30.0	17.7
Quebec	36.8	45.1	38.0	24.4	27.9	30.7
Ontario	28.0	34.0	30.8	25.5	28.7	12.0
Prairies	30.7	33.4	34.5	28.4	29.8	15.4
British Columbia	24.0	29.3	26.6	17.1	24.6	14.1
Females						
Canada	25.8	24.4	30.3	25.3	21.3	10.4
Atlantic	27.5	30.4	30.8	22.6	19.7	15.6
Quebec	30.6	29.9	34.9	32.7	27.3	10.8
Ontario	23.7	20.1	28.4	25.5	19.5	8.8
Prairies	26.1	18.7	31.6	22.6	22.9	13.8
British Columbia	19.9	14.9	25.0	19.4	11.9	7.3

Table 23. Number of Regular Smokers in the Adult Population, by Education, Sex and Region, Canada, 1986

Education						
	Total	0-8 years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Total	5 562 424	1 138 677	3 087 324	438 753	593 824	303 846
Atlantic	530 454	153 781	274 091	31 023	47 768	23 791
Quebec	1 742 245	497 812	853 920	97 343	185 403	107 768
Ontario	1 857 306	303 658	1 084 281	177 535	201 954	89 878
Prairies	939 297	123 403	563 152	86 141	113 312	53 289
British Columbia	493 122	60 023	311 882	46 712	45 386	29 120
Males						
Total	2 962 821	689 910	1 535 137	212 310	315 636	209 828
Atlantic	285 584	96 501	135 689	15 894	23 823	13 676
Quebec	927 112	287 976	422 188	38 766	92 652	85 531
Ontario	980 646	183 538	542 357	89 390	107 411	57 951
Prairies	504 425	79 970	282 452	46 950	62 935	32 118
British Columbia	265 055	41 925	152 451	21 311	28 816	20 553
Females						
Total	2 599 603	448 767	1 552 187	226 443	278 188	94 018
Atlantic	244 870	57 280	138 401	15 129	23 945	10 115
Quebec	815 133	209 836	431 731	58 577	92 751	22 237
Ontario	876 660	120 120	541 924	88 145	94 544	31 928
Prairies	434 873	43 433	280 700	39 191	50 378	21 171
British Columbia	228 068	18 098	159 431	25 401	6 570	8 567

Table 24. Percentage Non-smokers in the Adult Population, by Region, Sex and Age, Canada, 1986

	Region					
	Total	Atlantic	Quebec	Ontario	Prairies	British Columbia
Both Sexes						
Total 15 years and over	67.2%	65.3%	62.2%	69.6%	66.7%	73.7%
15-19 years	78.6	77.0	74.3	81.2	78.2	82.4
20-24 years	63.1	60.4	57.5	66.8	63.5	66.5
25-44 years	61.8	58.4	57.3	63.6	61.7	70.0
45-64 years	66.3	65.6	61.3	68.6	64.6	73.1
65 years and over	81.6	80.1	77.0	84.2	81.0	84.8
20 years and over	66.0	63.8	61.0	68.4	65.4	72.9
Males						
Total 15 years and over	63.2	60.7	58.0	65.5	62.5	71.0
15-19 years	78.7	75.7	77.7	78.1	78.6	85.8
20-24 years	63.2	60.1	58.0	66.4	61.9	70.1
25-44 years	58.0	55.1	54.8	58.8	57.7	66.4
45-64 years	60.7	58.7	53.5	64.3	58.7	68.9
65 years and over	74.4	68.5	64.5	80.2	74.3	79.7
20 years and over	61.5	58.6	55.9	64.1	60.6	69.5
Females						
Total 15 years and over	71.1	69.8	66.1	73.5	70.8	76.4
15-19 years	78.6	78.3	70.7	84.4	77.7	78.9
20-24 years	63.1	60.8	56.9	67.3	65.2	62.8
25-44 years	65.6	61.5	59.8	68.3	65.8	73.6
45-64 years	71.7	72.3	68.5	72.8	70.3	77.3
65 years and over	87.1	89.3	85.9	87.1	86.4	88.9
20 years and over	70.4	68.7	65.7	72.5	70.0	76.1

Table 25. Number of Non-smokers in the Adult Population, by Region, Sex, and Age, Canada, 1986

	Region					
	Total	Atlantic	Quebec	Ontario	Prairies	British Columbia
Both Sexes						
Total 15 years and over	13 243 250	1 137 845	3 221 690	5 017 824	2 206 762	1 659 129
15-19 years	1 473 134	151 647	342 181	553 205	259 268	166 833
20-24 years	1 413 446	129 560	338 647	545 258	247 688	152 294
25-44 years	5 053 257	409 145	1 273 340	1 854 678	872 488	643 606
45-64 years	3 222 803	256 942	797 410	1 265 895	488 404	414 152
65 years and over	2 080 609	190 550	470 112	798 788	338 914	282 245
20 years and over	11 770 115	986 197	2 879 509	4 464 619	1 947 494	1 492 296
Males						
Total 15 years and over	6 082 814	516 475	1 460 322	2 295 746	1 026 956	783 315
15-19 years	753 632	76 286	182 614	272 334	133 572	88 826
20-24 years	713 556	64 618	172 666	274 110	121 544	80 619
25-44 years	2 353 398	190 100	605 031	843 942	411 841	302 486
45-64 years	1 447 225	113 169	336 536	582 002	221 322	194 197
65 years and over	815 002	72 303	163 474	323 359	138 678	117 188
20 years and over	5 329 182	440 188	1 277 707	2 023 412	893 385	694 489
Females						
Total 15 years and over	7 160 436	621 370	1 761 368	2 722 077	1 179 806	875 814
15-19 years	719 503	75 361	159 567	280 871	125 696	78 007
20-24 years	699 890	64 942	165 981	271 148	126 144	71 675
25-44 years	2 699 858	219 046	668 309	1 010 736	460 647	341 120
45-64 years	1 775 578	143 774	460 874	683 893	267 083	219 955
65 years and over	1 265 607	118 247	306 637	475 429	200 235	165 057
20 years and over	6 440 933	546 009	1 601 801	2 441 206	1 054 110	797 807

Table 26. Percentage Non-smokers in the Adult Population, by Education, Sex and Region, Canada, 1986

Education						
	Total	0-8 Years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Canada	67.2%	65.3%	64.0%	68.5%	71.0%	80.5%
Atlantic	65.3	60.1	62.9	73.0	72.0	78.0
Quebec	62.2	59.0	59.6	65.2	68.6	72.0
Ontario	69.6	70.4	65.6	67.2	72.5	85.0
Prairies	66.7	69.8	62.6	67.4	68.6	78.8
British Columbia	73.7	74.6	70.3	75.3	75.8	85.4
Males						
Canada	63.2	56.1	61.4	67.0	65.7	76.1
Atlantic	60.7	53.7	59.4	72.4	62.7	75.3
Quebec	58.0	49.0	57.5	67.5	67.7	63.3
Ontario	65.5	60.9	62.5	64.9	64.9	82.1
Prairies	62.5	59.9	59.6	60.5	65.0	75.8
British Columbia	71.0	66.7	69.1	77.7	65.9	81.1
Females						
Canada	71.1	74.2	66.4	69.9	75.6	86.4
Atlantic	69.8	68.0	66.0	73.7	78.0	81.2
Quebec	66.1	68.1	61.5	63.2	69.5	83.8
Ontario	73.5	79.0	68.4	69.6	78.4	88.8
Prairies	70.8	80.1	65.3	73.9	72.1	82.8
British Columbia	76.4	83.8	71.3	73.0	84.1	90.9

Table 27. Number of Non-smokers in the Adult Population, by Education, Sex and Region, Canada, 1986

Education						
	Total	0-8 Years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Canada	13 243 250	2 371 182	6 256 517	1 208 799	1 718 515	1 688 236
Atlantic	1 137 845	253 154	529 758	99 709	144 434	110 790
Quebec	3 221 690	790 255	1 400 582	220 485	461 253	349 114
Ontario	5 017 824	801 162	2 406 880	468 170	622 580	719 031
Prairies	2 206 762	329 527	1 068 009	228 169	296 334	284 723
British Columbia	1 659 129	197 084	851 288	192 265	193 915	224 578
Males						
Canada	6 082 814	1 005 117	2 855 686	581 698	731 840	908 473
Atlantic	516 475	125 203	232 983	50 463	49 785	58 041
Quebec	1 460 322	312 508	639 218	107 232	225 013	176 351
Ontario	2 295 746	328 709	1 099 369	227 436	242 599	397 633
Prairies	1 026 956	143 295	488 447	99 900	137 336	157 979
British Columbia	783 315	95 402	395 669	96 667	77 107	118 469
Females						
Canada	7 160 436	1 366 066	3 400 831	627 101	986 676	779 762
Atlantic	621 370	127 950	296 775	49 246	94 649	52 750
Quebec	1 761 368	477 748	761 364	113 254	236 240	172 762
Ontario	2 722 077	472 454	1 307 511	240 735	379 981	321 398
Prairies	1 179 806	186 232	579 562	128 269	158 998	126 744
British Columbia	875 814	101 682	455 619	95 597	116 808	106 108

Table 28. Percentage of the Adult Population Who Never Smoked, by Education, Sex and Age, Canada, 1986

Education						
	Total	0-8 Years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Total 15 years and over	44.4%	43.0%	42.5%	47.3%	46.1%	50.9%
15-19 years	70.8	—	70.9	70.8	—	—
20-24 years	49.6	45.0	39.3	59.6	58.5*	72.9
25-44 years	39.1	36.6	33.7	36.4	44.1	53.6
45-64 years	38.1	38.1	37.3	42.7	36.9	40.3
65 years and over	49.3	49.8	49.9	49.1	50.8	36.8
20 years and over	41.6	41.9	37.3	44.9	45.7	50.9
Males						
Total 15 years and over	35.9	25.5	35.9	45.5	37.2	43.1
15-19 years	70.8	—	70.7	80.0	—	—
20-24 years	50.3	33.7	42.1	63.5	56.7*	68.3
25-44 years	33.7	26.5	28.5	34.0	37.3	47.7
45-64 years	24.2	21.6	23.6	30.4	20.2	32.7
65 years and over	24.4	23.8	24.4	29.5	29.0	21.9
20 years and over	32.1	23.7	29.0	42.3	36.8	43.1
Females						
Total 15 years and over	52.5	59.9	48.5	49.0	53.6	61.2
15-19 years	70.8	—	71.2	63.2	—	—
20-24 years	48.9	57.4	36.3	55.4	60.2*	76.3
25-44 years	44.4	46.5	38.5	38.8	50.3	61.1
45-64 years	51.5	55.2	48.5	54.9	51.5	53.4
65 years and over	68.0	72.4	66.0	60.5	61.3	64.2
20 years and over	50.6	59.4	44.7	47.4	53.3	61.2

Table 29. Percentage of the Adult Population Who Never Smoked, by Region, Sex and Age, Canada, 1986

	Region					
	Total	Atlantic	Quebec	Ontario	Prairies	British Columbia
Both Sexes						
Total 15 years and over	44.4%	43.2%	40.3%	47.1%	43.5%	47.2%
15-19	70.8	71.4	67.7	73.4	69.2	71.4
20-24	49.6	47.9	45.0	52.7	49.1	53.0
25-44	39.1	39.1	35.3	34.6	41.8	46.0
45-64	38.1	37.2	34.8	41.1	36.5	38.7
65 years and over	49.3	49.0	47.5	51.6	49.3	46.1
Males						
Total 15 years and over	35.9	34.5	31.9	38.4	35.8	38.6
15-19	70.8	69.7	73.7	69.6	69.5	71.3
20-24	50.3	49.9	45.9	53.2	48.5	54.8
25-44	33.7	30.3	30.5	35.7	32.5	39.5
45-64	24.2	23.5	18.0	27.6	24.6	27.4
65 years and over	24.4	18.7	17.0	29.9	27.8	21.7
Females						
Total 15 years and over	52.5	51.6	48.2	55.4	51.1	55.4
15-19	70.8	73.2	61.4	77.4	68.8	71.4
20-24	48.9	45.7	44.0	52.2	49.7	51.3
25-44	44.4	40.1	38.6	47.7	43.8	52.4
45-64	51.5	50.4	50.4	54.1	48.5	49.9
65 years and over	68.0	73.2	69.1	67.6	66.5	65.5

Table 30. Percentage of the Adult Population Who Never Smoked, by Education, Sex, and Region, Canada, 1986

Education						
	Total	0-8 Years	Some Secondary and No Post-secondary	Some Post-secondary	Post-secondary Certificate or Diploma	University Degree
Both Sexes						
Canada	44.4%	43.0%	42.5%	47.3%	46.1%	50.9%
Atlantic	43.0	35.8	43.3	51.7	46.8	51.1
Quebec	40.3	37.2	39.8	46.4	43.1	42.8
Ontario	47.1	51.1	44.2	45.8	47.8	54.5
Prairies	43.5	46.4	40.9	44.3	42.6	52.4
British Columbia	47.2	42.8	44.3	54.2	53.4	52.1
Males						
Canada	35.9	25.5	35.9	45.5	37.2	43.1
Atlantic	34.5	23.1	36.7	49.4	34.0	44.2
Quebec	31.9	19.8	34.2	52.4	36.1	33.7
Ontario	38.4	31.3	36.9	43.8	39.3	46.9
Prairies	35.8	29.1	35.3	34.6	34.9	47.9
British Columbia	38.6	27.3	37.1	54.1	40.1	41.3
Females						
Canada	52.5	59.9	48.5	49.0	53.6	61.2
Atlantic	51.6	51.5	49.1	54.2	55.2	59.4
Quebec	48.2	52.9	44.9	41.2	49.8	55.2
Ontario	55.4	69.0	51.1	47.7	54.4	64.8
Prairies	51.1	64.3	46.2	53.6	50.0	58.5
British Columbia	55.4	61.1	50.7	54.3	64.6	65.6

Appendix II – Technical Notes on Methods

Contents

Labour Force Smoking Survey

• Background	56
• Sample Selection	56
• Collection and Processing of Data	57
• Estimation Procedures	58
• Reliability of Estimates	59
• Non-sampling Error	63
• Questionnaires and Data Collection	65

Appendix Tables

A. Sample Size of the 1986 Labour Force Survey Smoking Supplement, by Province, Sex, and Age	57
B. Response Rates, 1986 Smoking Behaviour of Canadians Survey, by Selected Characteristics of Sample	58
C. Crude Sampling Variability Table for the Labour Force Survey on Smoking, Canada, 1986	61
D. Proportion of Sample Responses Based on Proxy Information, Comparison of Regular Smoking Estimates Based on Proxy, Non-Proxy Response, and Ratio of Non-proxy/proxy Estimates, by Age and Sex, Labour Force Survey, 1986	64

LABOUR FORCE SMOKING SURVEY

Background

Since 1964, the Department of Health and Welfare has collected information relating to the smoking behaviour of Canadians through supplements to the Canadian Labour Force Survey. The Canadian Labour Force Survey (LFS) is the largest continuing household survey conducted by Statistics Canada.

The survey is conducted on a monthly basis and covers the population age 15 years and over in the 20 provinces of Canada. The survey sampling frame excludes the Yukon and Northwest Territories, populations living on Indian reserves and Crown lands, inmates of institutions and members of the armed forces. The population in excluded areas accounts for approximately 3% of the total population of Canada.

Sample Selection

The sample is a complex multi-stage probability sample of dwellings. Approximately 56 000 dwellings are sampled each month. Households within the selected dwellings are sampled each month for six consecutive months. All members of the household who fit the criteria for participation are interviewed. The participating households are divided into six panels. Each month, a new panel is totated into the sample and in its sixth month is rotated out. Each panel is a representative sample of the population. This rotation is done to minimize the non-response that occur if respondents were asked to remain in the survey for a longer period of time. The Smoking Behavior of Canadians Survey was conducted on a subsample of the LFS sample. Two rotations of the LFS were surveyed. This sample procedure resulted in the selection of 30 799 individuals. The survey achieved a 95% response rate.

Table A provides information on the sample size of the LFS smoking supplement by age, sex and province. Although the sample size of this survey is larger than most smoking surveys conducted in Canada, the sample size may not be sufficient to make reliable estimates of certain population parameters (i.e. smoking estimates in specialized occupational groups). The complex design of the Labour Force Survey has the effect of making the standard errors of estimates somewhat larger than they would be from a simple random sample of the same size using the same procedures. This "design effect" of the survey is taken into account for the release of estimates in this report. Researchers who plan to conduct more extensive analysis of the data base are advised to review the LFS methodology or to seek the advice of the Special Surveys Group at Statistics Canada as the design effect is needed for the calculation of statistical tests. A more complete description of the Labour Force Survey methodology may be found in published reports.²²⁻²⁴

Table A. Sample Size of the 1986 Labour Force Survey Smoking Supplement, by Province, Sexe and Age

	Canada					Province					
	Total	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Both sexes											
Total 15 years and over	30 799	2 053	990	2 375	2 566	4 793	5 786	2 233	2 921	4 140	2 942
15-19 years	3 090	300	79	253	308	445	562	215	260	402	266
20-24 years	3 239	224	110	237	259	535	647	225	305	435	262
25-44 years	12 887	849	437	935	1 031	2 141	2 362	858	1 157	1 859	1 258
45-64 years	7 448	453	215	538	624	1 183	1 464	571	716	953	731
65 years and over	4 135	227	149	412	344	489	751	364	483	491	425
20 years and over	27 709	1 753	911	2 122	2 258	4 348	5 224	2 018	2 661	3 738	2 676
Males											
Total 15 years and over	14 959	1 040	486	1 127	1 236	2 352	2 783	1 077	1 414	2 033	1 411
15-19 years	1 563	151	44	124	158	231	276	112	132	205	130
20-24 years	1 515	121	49	117	121	245	309	109	137	191	116
25-44 years	6 335	414	215	444	511	1 073	1 151	419	571	927	610
45-64 years	3 697	241	108	271	293	583	723	280	353	488	357
65 years and over	1 849	113	70	171	153	220	324	157	221	222	198
20 years and over	13 396	889	442	1 003	1 078	2 121	2 507	965	1 282	1 828	1 281
Females											
Total 15 years and over	15 840	1 013	504	1 248	1 330	2 441	3 003	1 156	1 507	2 107	1 531
15-19 years	1 527	149	35	129	150	214	286	103	128	197	136
20-24 years	1 724	103	61	120	138	290	338	116	168	244	146
25-44 years	6 552	435	222	491	520	1 068	1 211	439	586	932	648
45-64 years	3 751	212	107	267	331	600	741	291	363	465	374
65 years and over	2 286	114	79	241	191	269	427	207	262	269	227
20 years and over	14 313	864	469	1 119	1 180	2 227	2 717	1 053	1 379	1 910	1 395

Collection and Processing of Data

Upon identification of selected dwellings, the first contact with persons in the dwelling is by a personal visit. The interviewers are allowed to accept responses about all eligible members of the household from any responsible member of the household. If no eligible person is present or agreeable to respond to the interviewer's questions, the interviewer arranges to call back later in the week in an attempt to elicit a response. In rural areas, telephone callbacks may be employed to reduce administrative costs.

All interviews are conducted by a pool of experienced interviewers. In addition to their experience and training in the general conduct of interviews, they were specifically trained in the subject matter of the smoking survey.

The work of interviewers is monitored by means of periodic observation and by re-interview. To monitor and control the quality of data entry, verification of the data entry operation is undertaken on a 100% or on a sample basis. Data processing involves a set of checks for logical validity and consistency in responses where socio-demographic characteristics are known from previous visits to the household. In cases where respondents refuse to answer questions, data for non-responding units may be imputed using data from responding units or some earlier data on the non-responding units. Imputation can lead to a bias if the characteristics of responding units differ from those of the non-responding units. Attempts are made to obtain as high a response rate as possible to reduce the need for imputation.

As noted earlier, the smoking survey achieved a response rate of 95%. The 5% non-response rate does not include a further 2% of households for which there was no response to the Labour Force Survey as well and information could not be imputed from household records in previous months. Virtually nothing is known about the characteristics of persons living in these households. These households are not included in the figures below.

Table B. Response Rates, 1986 Smoking Behaviour of Canadians Survey, by Selected Characteristics of Sample

Age	Rate
15-19	94.4%
20-24	94.7
25-34	95.9
35-44	95.2
45-54	94.3
55-64	94.1
65+	94.7
Sex	
Male	95.4%
Female	94.8

Estimation Procedures

The Labour Force Survey is a complex multistage probability sample. Therefore, it is necessary to reflect the complex procedures in the derivation of estimates. The estimates presented in this report are based upon 1986 sample person counts weighted to produce national estimates. The weight for each sample person is the product of four component weights:

1. *Probability of selection*

The basic weight for each person is obtained by multiplying the reciprocals of the probabilities of selection at each step in the design: census tracts, dwellings and households.

2. ***Household non-response adjustment within this segment***

In the Labour Force Survey, interviews are completed in about 93% of all eligible households. Because of household non-response, a weighting adjustment is required. The non-response adjustment weight is a ratio with the number of households in a sample segment as the numerator and the number of households actually interviewed in that segment as the denominator. This adjustment reduces bias in an estimate to the extent that persons in the non-interviewed household have the same characteristics as the persons in the interviewed households in the same segment.

3. ***First-stage ratio adjustment***

The sample design determines a set of basic rates to be applied to each record referring to persons in the sample. This is called the basic weighting factor. The sample design is such that within the same province and same type of area, the basic weights are identical (except where specified) for each record (person) in the sample and are equal to the inverse of the sampling ratio.

4. ***Post-stratification by age-sex-rural/urban-province***

Information relating to the total population by age, sex and distribution is available through the census. Using the selected primary sampling units only, and dividing their most recent rural and urban census populations by the known probability of selection yields a sample estimate of the rural or urban population for each province. Comparisons by province, with the actual census counts, indicate whether the selected primary sampling units over- or under-represent the respective areas.

Reliability of Estimates

Data from sample surveys are subject to error from a number of sources. Two basic types of error are sampling and non-sampling errors. The first of these arises because the sample does not include every unit in the population and hence leads to a degree of uncertainty in any estimate derived from the sample. The difference between the estimates obtained from the sample and the results from a complete count taken under similar conditions is called the *sampling error* of the estimate.

Although the exact value of the error of a sample estimate cannot be known from sample results alone, it is possible to estimate a statistical measure of sampling error, the *standard error*, from the sample data. The size of this error is strongly related to the variability of the particular characteristic under study and the sample size upon which an estimate is based. From the properties of the normal curve, the chances are about 68 out of 100 that the difference would be less than one standard error, 95 out of a hundred that the difference would be less than two standard errors, and virtually certain that the difference would be less than three standard errors.

Because of the large variety of estimates that can be produced from a survey, the standard error is usually expressed relative to the estimate to which it pertains. The resulting measure, known as the *coefficient of variation* of an estimate, is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percentage of the estimate.²⁵

Derivation of sampling variabilities for each of the estimates which could be generated from the Labour Force Smoking Survey would be very costly, and for the needs of most users unnecessary. Consequently, crude measures of sampling variability have been developed for use (Table C). This table has been produced using a modification of the coefficient of variation formula based on a simple random sample. Because the LFS Smoking Survey is based on a multi-stage design, a factor called the design effect was introduced into the formula. This factor takes into account the increase in variance that results from using a complex design rather than a simple random sample.

The following guidelines should enable the reader to determine approximate coefficients of variation for aggregates (totals), percentages, ratios, differences between totals or percentages, and differences between ratios.

1. *Estimates of Aggregates (Totals)*

The coefficient of variation for totals depends only on the size of the estimated total itself. On Table C locate the estimated total (in thousands) in the left-most column of the table (headed Numerator of Percentage) and follow the asterisks across to the first figure encountered. This is the coefficient of variation.

2. *Estimates of Percentages*

The coefficient of variation of an estimated percentage depends on the size of the percentage and the size of the group upon which the percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. To estimate the coefficient of variation of a percentage, reference should be made to the percentage (across the top of the table) and to the numerator of the percentage, in thousands (down the left side of the table). The intersection of the appropriate row and column gives the appropriate coefficient of variation.

Table C. Crude Sampling Variability Table for the Labour Force Survey on Smoking, Canada, 1986

Numerator of Percentage ('000)	Estimated Percentage														
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%	
1	126.3	125.7	125.1	123.1	119.9	118.5	113.0	109.4	105.7	101.9	97.9	89.3	69.2	40.0	
2	89.3	88.9	88.4	87.1	84.7	82.4	79.9	77.4	74.7	72.0	69.2	63.2	48.9	28.2	
3	72.9	72.6	72.2	71.1	69.2	67.2	65.2	63.2	61.0	58.8	56.5	51.6	40.0	23.1	
4	63.1	62.9	62.5	61.6	59.9	58.2	56.5	54.7	52.9	50.9	48.9	44.7	34.6	20.0	
5	56.5	56.2	55.9	55.1	53.6	52.1	50.5	48.9	47.3	45.6	43.8	40.0	30.9	17.9	
6	51.6	51.3	51.1	50.3	48.9	47.6	46.1	44.7	43.2	41.6	40.0	36.5	28.2	16.3	
7	47.7	47.5	47.3	46.5	45.3	44.0	42.7	41.4	40.0	38.5	37.0	33.8	26.2	15.1	
8	44.6	44.4	44.2	43.5	42.4	41.2	40.0	38.7	37.4	36.0	34.8	31.6	24.5	14.1	
9	42.1	41.9	41.7	41.0	40.0	38.8	37.7	36.5	35.2	34.0	32.6	29.8	23.1	13.3	
10	39.9	39.8	39.5	38.9	37.9	36.8	35.7	34.6	33.4	32.2	30.9	28.2	21.9	12.6	
11	38.1	37.9	37.7	37.1	36.1	35.1	34.1	33.0	31.9	30.7	29.5	26.9	20.9	12.0	
12	36.5	36.3	36.1	35.5	34.8	33.6	32.6	31.6	30.5	29.4	28.2	25.8	20.0	11.5	
13	35.0	34.9	34.7	34.2	33.2	32.3	31.3	30.3	29.3	28.2	27.1	24.8	19.2	11.1	
14	33.7	33.6	33.4	32.9	32.0	31.1	30.2	29.2	28.2	27.2	26.2	23.9	18.5	10.7	
15	32.6	32.5	32.3	31.8	30.9	30.1	29.2	28.2	27.3	26.3	25.3	23.1	17.9	10.3	
16	31.6	31.4	31.3	30.8	30.0	29.1	28.2	27.4	26.4	25.5	24.5	22.3	17.3	10.0	
17	30.6	30.5	30.3	29.9	29.1	28.2	27.4	26.5	25.6	24.7	23.7	21.7	16.8	9.7	
18	29.8	29.6	29.5	29.0	28.2	27.5	26.6	25.8	24.9	24.0	23.1	21.1	16.3	9.4	
19	28.0	28.8	28.7	28.2	27.5	26.7	25.9	25.1	24.2	23.4	22.5	20.5	15.9	9.2	
20	*****	28.1	28.0	27.5	26.8	26.0	25.3	24.5	23.6	22.8	21.9	20.0	15.5	8.9	
21	*****	27.4	27.3	26.9	26.2	25.4	24.7	23.9	23.1	22.2	21.4	19.5	15.1	8.7	
22	*****	26.8	26.7	26.3	25.6	24.8	24.1	23.3	22.5	21.7	20.9	18.0	14.8	8.5	
23	*****	26.2	26.1	25.7	25.0	24.3	23.6	22.8	22.0	21.2	20.4	18.6	14.4	8.3	
24	*****	25.7	25.5	25.1	24.5	23.8	23.1	22.3	21.6	20.8	20.0	18.2	14.1	8.2	
25	*****	25.1	25.0	24.6	24.0	23.3	22.6	21.9	21.1	20.4	19.6	17.9	13.8	8.0	
30	*****	23.0	22.8	22.5	21.9	21.3	20.6	20.0	19.3	18.6	17.9	16.3	12.6	7.3	
35	*****	21.2	21.1	20.8	20.3	19.7	19.1	18.5	17.9	17.2	16.5	15.1	11.7	6.8	
40	*****	19.9	19.8	19.5	19.0	18.4	17.9	17.3	16.7	16.1	15.5	14.1	10.9	6.3	
45	*****	18.7	18.6	18.4	17.9	17.4	16.8	16.3	15.8	15.2	14.6	13.3	10.3	6.0	
50	*****	17.8	17.7	17.4	16.9	16.5	16.0	15.5	14.9	14.4	13.8	12.6	9.8	5.6	
55	*****	16.9	16.9	16.6	16.2	15.7	15.2	14.8	14.3	13.7	13.2	12.0	9.3	5.4	
60	*****	16.2	16.1	15.9	15.5	15.0	14.6	14.1	13.6	13.1	12.6	11.5	8.9	5.2	
65	*****	15.6	15.5	15.3	14.9	14.4	14.0	13.6	13.1	12.6	12.1	11.1	8.6	5.0	
70	*****	15.0	14.9	14.7	14.3	13.9	13.5	13.1	12.6	12.2	11.7	10.7	8.3	4.8	
75	*****	14.5	14.4	14.2	13.8	13.4	13.0	12.6	12.2	11.8	11.3	10.3	8.0	4.6	
80	*****	14.1	14.0	13.8	13.4	13.0	12.6	12.2	11.8	11.4	10.9	10.0	7.7	4.5	
85	*****	13.6	13.6	13.4	13.0	12.6	12.3	11.9	11.5	11.0	10.6	9.7	7.5	4.3	
90	*****	13.3	13.2	13.0	12.6	12.3	11.9	11.5	11.1	10.7	10.3	9.4	7.3	4.2	
95	*****	12.9	12.8	12.6	12.3	12.0	11.6	11.2	10.8	10.5	10.0	9.2	7.1	4.1	
100	*****	12.6	12.5	12.3	12.0	11.6	11.3	10.9	10.6	10.2	9.8	8.9	6.9	4.0	
125	*****	11.2	11.2	11.0	10.7	10.4	10.1	9.8	9.5	9.1	8.8	8.0	6.2	3.6	
150	*****	10.3	10.2	10.1	9.8	9.5	9.2	8.9	8.6	8.3	8.0	7.3	5.6	3.3	
200	*****	8.8	8.7	8.5	8.2	8.0	7.7	7.5	7.2	6.9	6.3	4.9	2.8		
250	*****	7.9	7.8	7.6	7.4	7.1	6.9	6.7	6.4	6.2	5.6	4.4	2.5		
300	*****	7.2	7.1	6.9	6.7	6.5	6.3	6.1	5.9	5.6	5.2	4.0	2.3		
350	*****	6.7	6.6	6.4	6.2	6.0	5.8	5.6	5.4	5.2	4.8	3.7	2.1		
400	*****	6.2	6.0	5.8	5.6	5.5	5.3	5.1	4.9	4.5	3.5	2.0			
450	*****	5.8	5.6	5.5	5.3	5.2	5.0	4.8	4.6	4.2	3.3	1.9			
500	*****	5.5	5.4	5.2	5.1	4.9	4.7	4.6	4.4	4.0	3.1	1.8			
750	*****	4.5	4.4	4.3	4.1	4.0	3.9	3.7	3.6	3.3	2.5	1.5			
1000	*****	3.8	3.7	3.6	3.5	3.3	3.2	3.1	2.8	2.2	2.2	1.3			
1500	*****	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.3	2.0	1.8	1.0			
2000	*****	2.6	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.0	1.5	0.9			
3000	*****	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.3	0.7			
4000	*****	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.1	0.6			
5000	*****	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2	0.9	0.5			
6000	*****	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	0.9	0.5			
7000	*****	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.8	0.5			
8000	*****	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4				
9000	*****	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.4				
10000	*****	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4				

Notes: (1) Sampling variabilities (coefficients of variation) are in percents.

(2) To determine sampling variabilities for estimates of totals, locate the row closest to the estimated total. The left-most column gives sampling variability.

(3) To determine sampling variabilities for estimates of percentages, use the row closest to the numerator of the percentage and the column closest to the percentage.

3. *Ratios*

In the case where the numerator is a subset of the denominator, the ratio should be converted to a percentage and the procedure for percentages applied. In the case where the numerator is not a subset of the denominator, the coefficient of variation of the ratio of the two estimates is approximately equal to the square root of the sum of squares of each coefficient of variation considered separately; that is, the coefficient of variation of the ratio:

This formula will tend to overstate the error if X and Y are positively correlated and understate the error if X and Y are negatively correlated.

$$R = \frac{X}{Y} \quad \text{is} \quad cv(R) = \sqrt{cv(X)^2 + cv(Y)^2}$$

4. *Differences Between Totals or Percentages*

The standard deviation of a difference between two estimates is approximately equal to the square root of the sum of squares of each standard deviation considered separately. That is, the standard deviation of a difference:

This formula is accurate for the difference between separate and uncorrelated characteristics but is only approximate otherwise.

$$d = X - Y$$

$$sd(d) = \sqrt{[X cv(X)]^2 + [Y cv(Y)]^2}$$

The coefficient of variation is approximately

$$cv(d) = \frac{sd(d)}{d}$$

5. *Difference of Ratios*

In this case, procedures 3 and 4 are combined. The coefficients of variation for the two ratios are first determined using procedure 3, and then the coefficient of variation of their differences is found using procedure 4.

Where the numbers estimated are large, the margin of error is generally low. Small estimates are more prone to error. Where the quantity estimated has a coefficient of variation exceeding 25%, it is not regarded as being of sufficient precision to be published. The symbol -- is given in tables where this occurs. Where the coefficient of variation is between 16.5% and 25%, the estimate should be interpreted with caution. Such estimates are noted with the symbol.*

Non-sampling Error

Non-sampling errors cover all other sources of errors. They may arise from a wide range of sources and include errors due to coverage, measurement, non-response, proxy response, and editing, imputation, and estimation procedures.

The smoking rates of adolescents are a particular concern as this group represents a primary target group for health promotion programs. In surveys prior to 1981, no attempt was made to measure or control proxy response (i.e. asking a member of a household to respond on behalf of an absent person). In the 1981 and 1983 surveys, a column at the end of the questionnaire coded whether the survey schedule was based on proxy or non-proxy data. Since the proportion of responses that was based on proxy information constituted about 75% of all responses in the 1983 survey, we attempted to reduce proxy response in the 1986 survey. In the 1986 survey, interviewers were instructed to ask the smoking questions directly to household members who were available to provide information. If a member of the household was not present, a follow-up telephone call was made to obtain information directly from the person concerned. A proxy response was allowed only if the individual was not available or the initial household respondent insisted on answering on behalf of other household members. If a proxy interview was conducted, questions which related to attitudes toward the restriction of smoking in various settings were not asked. However, in certain cases proxy response was permitted for behavioural data.

Table D presents data relating to the proportion of estimates that were based on proxy and self-reported data and the estimates of regular smoking associated with proxy/non-proxy response. Approximately 30% of the smoking estimates were based on proxy response. Proxy response was more likely for males (38%) than for females (22%). This pattern was apparent for all age groups. In general, proxy response resulted in smoking prevalence estimates that were lower than estimates based on self-reporting. However, in the 25-44 and 65 and older age groups proxy response was slightly more likely to yield estimates that were higher than those based on self-reporting. The effects of proxy reporting are most apparent for those below age 25 and for females in all age groups. Comparison of self-reported estimates with estimates based on combined proxy/non-proxy data suggest that in the total population, self-reported data would yield estimates of smoking that are 1.1% higher for the population over age 15, and up to 4.7% higher for the 15-19 age group.

Among males age 15 years and over, self-reported estimates are 0.7% higher than those based on combined proxy/non-proxy data. In the 15-19 and 20-24 age groups, estimates are 2.3% and 2.0% higher. Among females, self-reported data would produce estimates that are 1.8% higher than those based on combined data for the population 15 years and older, 7.1% higher for the 15-19 age group and 2.4% higher for the 20-24 group.

Table D. Proportion of Sample Responses Based on Proxy Information, Comparison of Regular Smoking Estimates Based on Proxy, Non-Proxy Response, and Ratio of Non-proxy/proxy Estimates, by Age and Sex, Labour Force Survey, 1986

Age Groups	Proportion of Estimate Based on Proxy Data	Percent Regular Smokers			Ratio Self-report/Proxy
		Proxy	Self-report	Total	
<i>Both sexes</i>					
15 years and over	30.9	26.0%	29.3%	28.2%	1.13
15-19	53	13.5	22.3	17.6	1.65
20-24	38	28.2	33.9	31.7	1.20
25-44	25	32.2	31.7	33.4	.98
45-64	27	29.2	29.5	29.4	1.01
65 years and over	22	14.5	14.4	14.4	.99
<i>Males</i>					
15 years and over	38	29.7	31.5	30.8	1.06
15-19	54	15.2	19.7	17.4	1.30
20-24	46	29.1	33.3	31.3	1.14
25-44	35	35.9	35.4	35.4	.99
45-64	36	32.7	34.1	33.6	1.07
65 years and over	31	19.2	18.1	18.6	.94
<i>Females</i>					
15 years and over	22	19.7	27.6	25.8	1.40
15-19	53	11.6	24.9	17.8	2.15
20-24	31	26.7	34.4	32.0	1.29
25-44	16	24.6	32.8	31.4	1.33
45-64	18	22.0	26.1	25.3	1.18
65 years and over	16	6.8	12.2	11.3	1.79

It is difficult to assess the overall impact of proxy response on the survey estimates. In some instances, proxy reporting may under-estimate the prevalence of smoking in a group. This may be a problem for the youngest age groups as proxy respondents may not be aware of the smoking behaviour of the person for whom they are reporting.²⁶ On the other hand, proxy response may provide a more accurate picture of current smoking status in some groups, particularly where there are social pressures operating against self-reports of a behaviour that is regarded as negative. Attempts to totally eliminate proxy response from the LFS smoking survey would have both cost and survey administration implications. Even if proxy response was eliminated, it would not guarantee more valid data relating to the smoking estimates for younger age groups. Interviewer-administered questionnaires in the households, telephone followup, or mailback questionnaires could all be expected to produce their own biases. In addition, if the survey accepts self-reported data only from the teenagers who are

present at the time of the household interview, it is possible that these adolescents may have different characteristics from those who are not available. Another potential problem with smoking data is the degree of under-reporting that may have occurred over time. To date, few Canadian surveys of smoking behaviour have attempted to validate smoking behaviour through other objective measure. The preceding discussion is intended to alert users of the LFS smoking data to potential sources of bias.

Questionnaires and Data Collection

The data presented in this report are based on two survey schedules: the Canadian Labour Force Survey and the Smoking Behaviour of Canadians Survey. The Labour Force Survey interview schedule collects socio-demographic data, and information relating to current work status, including efforts to find work, number of hours worked, type of occupation, absences from work, etc. The Smoking Survey asked questions relating to smoking history, current smoking status, frequency of smoking, tar/nicotine content of cigarette smoked, and type of cigarette smoked. These questions correspond to the conventional smoking questions on previous Labour Force Survey supplements. Additional questions were placed on the smoking survey to provide some statistical data on the exposure of workers to smoke in occupational settings, to measure the prevalence of restrictions on smoking in the workplace and to assess employee attitudes toward the issue of smoking in the workplace. Questions were also added to assess public attitudes toward the restriction of smoking in public settings and to measure the use of smokeless tobacco products in Canada. Findings relating to the latter topic will be published in a separate report.

Appendix III – Definitions of Smoking Behaviour

The conceptual definitions of smoking behaviour in this report are consistent with previous LFS smoking supplements.

1. Regular smokers are those who reported smoking cigarettes daily.
2. Occasional cigarette smokers smoke cigarettes occasionally (not every day).
3. Ex-regular cigarette smokers are those who reported that they smoked cigarettes regularly in the past but do not at present smoke a pipe, cigarettes or cigars.
4. Former smokers are defined as individuals who ever smoked cigarettes, pipes or cigars but who did not smoke cigarettes, pipes or cigars at the time of the survey.
5. Never smoked refers to respondents who indicated that they had never smoked cigarettes, pipes or cigars.
6. Non-smokers refer to respondents who never smoked or who used to smoke cigarettes, pipes or cigars but are presently not smoking.
7. Smoke only pipe and/or cigar refers to respondents who smoke a pipe and/or cigars but do not smoke cigarettes.

Appendix IV – Survey Questionnaire

Access to Microdata Tapes

Researchers are encouraged to conduct more extensive analyses of the LFS data base relating to smoking. Those who wish to do so may purchase microdata tapes and accompanying documentation from:

The Government Archives Division
National Archives of Canada
395 Wellington Street
Ottawa, K1A 0N3
Ontario

There is a nominal charge for the magnetic tape and documentation.

SURVEY OF SMOKING HABITS 1986

CONFIDENTIAL when completed

Docket no. 2 Survey date 3 Mo. Yr.

HRD page - line no.

Assignment No. 4 Given name 6 Surname 7

1 FORM NO. 06

0. Has ... ever smoked cigarettes, cigars or a pipe?

Yes ¹ No ²

Go to 21

1. At the present time, does ... smoke a pipe?

Yes ³ No ⁴

Go to 13

2. At the present time, does ... smoke a pipe regularly (usually every day) or occasionally (not every day)?

Regularly ⁵ Occasionally ²

3. At the present time, does ... smoke cigars?

Yes ⁷ No ⁸

Go to 15

4. At the present time, does ... smoke cigars regularly (usually every day) or occasionally (not every day)?

Regularly ¹ Occasionally ²

5. At the present time, does ... smoke cigarettes?

Yes ³ No ⁴

Go to 19

6. At the present time, does ... smoke cigarettes regularly (usually every day) or occasionally (not every day)?

Regularly ¹ Occasionally ⁶

7. How many cigarettes does ... usually smoke per day?

Enter number of cigarettes 1

8. What kind of cigarettes does ... usually smoke?

(brand, size, filter, non-filter)

Enter code 1

Go to 21

9. Has ... ever smoked cigarettes regularly?

Yes ¹ No ²

Go to 21

10. About how many cigarettes did ... usually smoke daily?

Enter number of cigarettes 1

99 NOTES

See over for additional NOTES

no.

Item no.

ENQUÊTE SUR LES HABITUDES DE FUMER 1986

N° de dossier 2

Date de l'enquête 3

Mo.

Yr.

N° de tâche 4

N° de page-
ne du DM.

Prénom

6

1 FORMULE 06

10. ...a-t-il (elle) déjà fumé la cigarette, le cigare ou la pipe?

Oui ¹ Non ²

Passez à 21

11. À l'heure actuelle, ... fume-t-il (elle) la pipe?

Oui ³ Non ⁴

Passez à 13

12. À l'heure actuelle, ... fume-t-il (elle) la pipe régulièrement (habituellement tous les jours) ou seulement à l'occasion (pas tous les jours)?

Régulièrement ⁵ À l'occasion ²

13. À l'heure actuelle, ... fume-t-il (elle) le cigare?

Oui ⁷ Non ⁸

Passez à 15

14. À l'heure actuelle, ... fume-t-il (elle) le cigare régulièrement (habituellement tous les jours) ou seulement à l'occasion (pas tous les jours)?

Régulièrement ¹ À l'occasion ²

15. À l'heure actuelle, ... fume-t-il (elle) la cigarette?

Oui ³ Non ⁴

Passez à 19

16. À l'heure actuelle, ... fume-t-il (elle) la cigarette régulièrement (habituellement tous les jours) ou seulement à l'occasion (pas tous les jours)?

Régulièrement ¹ À l'occasion ⁶

17. Combien de cigarettes... fume-t-il (elle) habituellement par jour?

Inscrivez le nombre de cigarettes

18. Quelle sorte de cigarettes... fume-t-il (elle) habituellement?

(marque, format, bout filtre, bout uni)

Inscrivez le code

Passez à 21

19. ...a-t-il (elle) déjà fumé la cigarette régulièrement?

Oui ¹ Non ²

Passez à 21

20. Combien de cigarettes... avait-il (elle) l'habitude de fumer par jour?

Inscrivez le nombre de cigarettes

21. À l'heure actuelle, ... chique-t-il (elle)?

(c'est-à-dire une chique ou une torsade de tabac)

Oui ³ Non ⁴

22. À l'heure actuelle, ... utilise-t-il (elle) du tabac à priser?

(c'est-à-dire un tabac découpé très fin et humide que l'on garde généralement dans la bouche)

Oui ⁵ Non ⁶

23. En ce qui concerne les endroits suivants, croyez-vous qu'il devrait être permis de fumer, permis de fumer dans les aires réservées aux fumeurs ou interdit de fumer?

	Permis	Permis dans aires réservées aux fumeurs	Interdit	Sans opinion
En milieu de travail	01 <input type="checkbox"/>	02 <input type="checkbox"/>	03 <input type="checkbox"/>	04 <input type="checkbox"/>
Hôpitaux	05 <input type="checkbox"/>	06 <input type="checkbox"/>	07 <input type="checkbox"/>	08 <input type="checkbox"/>
Restaurants	09 <input type="checkbox"/>	10 <input type="checkbox"/>	11 <input type="checkbox"/>	12 <input type="checkbox"/>
Cinémas	13 <input type="checkbox"/>	14 <input type="checkbox"/>	15 <input type="checkbox"/>	16 <input type="checkbox"/>
Autobus interurbains	17 <input type="checkbox"/>	18 <input type="checkbox"/>	19 <input type="checkbox"/>	20 <input type="checkbox"/>
Trains	21 <input type="checkbox"/>	22 <input type="checkbox"/>	23 <input type="checkbox"/>	24 <input type="checkbox"/>
Avions	25 <input type="checkbox"/>	26 <input type="checkbox"/>	27 <input type="checkbox"/>	28 <input type="checkbox"/>
Bureaux de l'adm. pub.	29 <input type="checkbox"/>	30 <input type="checkbox"/>	31 <input type="checkbox"/>	32 <input type="checkbox"/>
Magasins	33 <input type="checkbox"/>	34 <input type="checkbox"/>	35 <input type="checkbox"/>	36 <input type="checkbox"/>
Écoles	37 <input type="checkbox"/>	38 <input type="checkbox"/>	39 <input type="checkbox"/>	40 <input type="checkbox"/>
Cabinets de médecins	41 <input type="checkbox"/>	42 <input type="checkbox"/>	43 <input type="checkbox"/>	44 <input type="checkbox"/>
Banques	45 <input type="checkbox"/>	46 <input type="checkbox"/>	47 <input type="checkbox"/>	48 <input type="checkbox"/>

24. FORMULE N°5 À L'INTENTION DE L'INTERVIEWER

- si "OUI" au poste 10 ou un code autre que 6 au poste 33 1 Passez à 25- Autrement 2 Passez à 27

25. Est-il permis de fumer dans votre aire immédiate?

(c'est-à-dire l'aire de travail où vous passez le plus de temps)

Oui ³ Non ⁴ Ne sait pas ⁵

26. Dans votre milieu de travail, y a-t-il des aires où il est permis de fumer et d'autres, pas?

Oui ⁶ Non ⁷ Ne sait pas ⁸

27. Source de renseignements:

N° de page - ligne du DM

99 NOTES

Servez-vous du verso pour NOTES supplémentaires

poste

N° de poste

14383

